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GEORGE W. YORK, Editor.

AMERICAN BEE JOURNAL.

ESTABLISHT IN 1861 OLDEST BEE-PAPER IN AMERICA

DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS.

40th YEAR. CHICAGO, ILL., JANUARY 4, 1900. No. 1.

CONTRIBUTED ARTICLES

A Lovely Apiary in Kankakee Co., Ill.

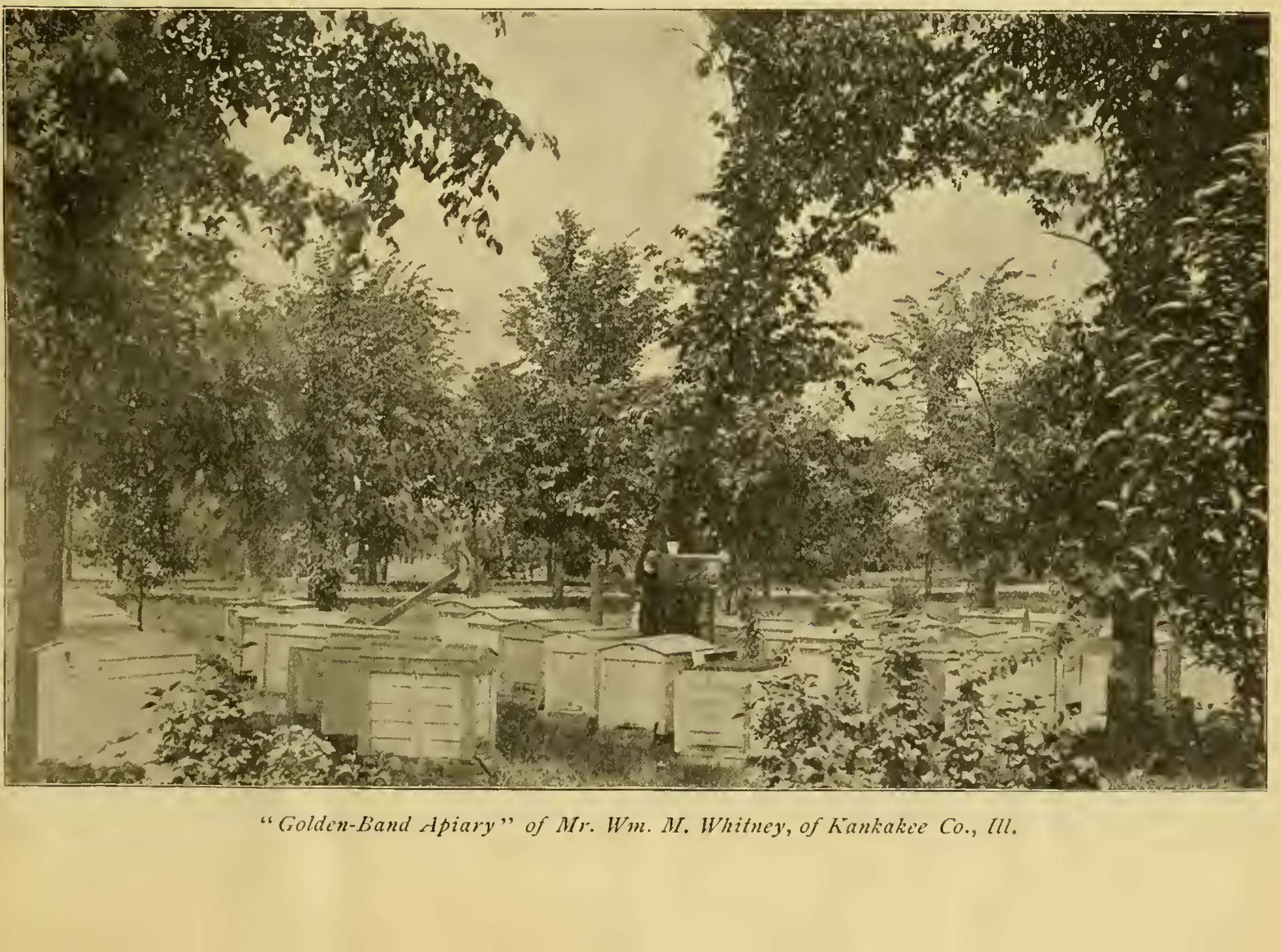
BY WM. M. WHITNEY.

I MAIL you photographs of my bee-yard, but beg to be excused from giving my experience as a bee-keeper at this time. I'll admit that it would be amusing reading-matter, were it possible for me to give an unbiast, unvarnisht account of all my operations in the few years I've been studying the honey-bee.

You see, it would set the whole fraternity to laughing at me, especially the veterans, and it is so near cold weather we are likely to have a sudden freeze-up, and if any of them were caught in the freeze, no one can tell what the consequences might be; and I do not court being defendant in a suit for damages for personal injury; therefore, I will simply explain in as few words as I can, the yard and surroundings.

In viewing the first picture we are looking nearly northwest, consequently the yard fronts southeast, and the rows of hives and the alleys of course run in the same direction.

The hives are placed diagonally in the rows, and in each pair of rows the hives in one front east and in the other south, making every alternate alley entirely free from bees as a passage-way, and from which the hives can be manipulated without the least annoyance. The rows are seven feet from center to center, and the hives four feet from center to center in the row. The hives are so placed that a line drawn along the rear of the first one will touch the front of that immediately behind it; making it very easy



"Golden-Band Apiary" *of Mr. Wm. M. Whitney, of Kankakee Co., Ill.*

for the operator to occupy the space at the rear of one hive, and have ample opportunity to examine the front of any other.

There is one wide alley crosswise thru the center to facilitate operations, and, if the apiary were a large one, I would think others at convenient distances advisable.

The hives are placed on stands fully four inches high, but if the ground were liable to become very damp, and to remain so any considerable time, I should recommend at least six inches elevation.

The shrubbery seen in front is currant bushes, and between them and the hives is a portion of a strawberry-patch, which, because of the proximity to the little clump of elms, has become of little or no value. The yard is kept well mowed with a lawn-mower, like the lawn shown in the distance. The shadow of the foliage of a half-dozen little elms sweeps around over the yard by the movement of the sun, so that all get the benefit of it; thus none of the hives are in the sunshine, nor in the shade, all of the time.

You will notice the hive that is open in the second picture is made of ¾-inch stuff. There are but few such, and they were made by myself in an emergency. I do not recommend them. The balance are of thin stuff, and are as easily handled as any hive I've ever had, or know of.

You will notice a sled standing against a tree. This is of the same height as the stand, and when I wish to move a hive the sled is backt up to the rear, the hive easily pulled on to it, and is hauled away. I prefer the sled to any other method of hauling, as it moves over the uneven ground with less liability to jostle or jar the hive.

You will also notice in the same picture a frame of bees being held for a "time photograph." No veil, no smoke (but smoker ready if needed); bees literally covering both sides of the frame, and running all over my hands—one, you will notice, stopt long enough to have her photograph taken—and all this is done when my suit from head to foot was *black*, excepting the hat. (The word "black" is italicized for the benefit of those who say bees cannot be handled by persons drest in such a suit.)

Now, on looking over my description I believe it could have been told in half the words had I taken time and had done a little thinking. "Aye, there's the rub!" How few do any real, hard thinking.

I have tried various plans for arranging hives for convenience, but I like this best for all practical purposes. I do not think I've lost a single queen by its returning to the wrong hive. Kankakee Co., Ill.

Characteristics of a Successful Bee-Keeper.

BY C. P. DADANT.

BEE-KEEPING is a business that requires the greatest amount of attention to small details or minutiæ to carry it on successfully. The good bee-keeper is generally more or less cranky, but he is most extraordinarily so on the attention he pays to his bees, in the very smallest particulars. Everything must be arranged methodically (en papier de musique), and it is only the man who is thus particular who may be depended upon for as great success with bees as can possibly be achieved in the locality where he lives.

In every season, at every turn, the apiarist is confronted with the need of attention to details. In early spring he is to notice the signs of approaching starvation in occasional colonies. By their behavior at the entrance he will recognize the queenless colonies, and it is another detail to furnish them with necessary larvæ to enable them to rear a queen again. The success and prolificness of this queen depend upon the prolificness of the colony out of which the brood has been taken, and that is still another detail.

When the crop comes it is a nice point to detect at a glance the signs of approaching harvest, to furnish supers at the proper moment, so the lack of them may not induce the colony to swarm, and not to furnish them too soon and have them stained by the unnecessary travel of the bees over them.

When the swarm is harvested there are a thousand little things to look after—to recognize whether the queen has been hived without having actually seen her; set the hive up properly so the combs may be built perpendicularly; fasten the guides in the frames correctly; shelter the hive against the too direct rays of the sun; see that the grass is kept down, that the bees are supplied with a watering-trough, if no natural stream is close at hand, etc.

To remove the honey properly without damaging it, to cleanse the sections and have them in attractive appearance, to remove the traces of propolis, to keep the hive supplied with sufficient room, and to put up the honey in shape to make it most readily salable, are all nice points, and require minutiæ.

But the greatest vigilance is necessary, and the practical apiarist best shows himself when any robbing is going on. And the man who does not give the robbers a chance, who always has his colonies supplied with queens; who always keeps the entrances of his hives sufficiently open to allow of free entrance and exit, and yet reduces them to the absolute necessities of the colony according to its strength; who manages to handle his bees with so much speed, dexterity and care as to avoid undue excitement—that man is a bee-man indeed. This picture looks overdrawn, and yet I have in mind a dozen men who, to my knowledge, have just this much care of their bees, who do things in the apiary as we say they should be done, but not as we do them ourselves, for I regret to say I lack in many of these particulars, and I cannot refrain from admiring these men, however I may laugh at their too exact notions in ordinary things of life.

For the exact bee-keeper shows himself exact in all the details of life. I have in mind a little incident that will fully illustrate the precise method of the careful bee-keeper. The hero I will not name, but if he reads this he will readily recognize himself, even tho the incident happened years ago:

I was extracting honey for him, and while I extracted the first bucketful of honey he was in his cellar preparing a barrel to receive the honey. The head had been removed, and he had the barrel set upon blocks when I came down to see whether all was ready. By that time I had one bucket about full, and as soon as I found that all was right I went upstairs to get the honey. He came up behind me. In a short time I again descended the stairs with my pailful and cautiously stepping to the spot where the barrel was placed (it was a little dark) I poured my entire bucketful—on the lid. I don't believe a drop of it got into the barrel. Fearing that I might delay a little in bringing the honey, his exactness and exceeding neatness had prompted him to cover the barrel with its lid, for fear some little speck of dust might fall in. A few hot words past. You might have heard one man mutter something about other people's recklessness, while the other was cursing the precise ways of some people. But the quiet man had the best of it, for he went right to work cleaning up that barrel, and it was a job I can assure you, for I had evidently struck the center, and the honey was evenly spread over the entire surface of the lid, and over every stave from top to bottom!

The careful and successful bee-keeper has a neat home, his wood-pile is arranged symmetrically; if he has sawed the wood himself you may be sure that not a single stick is an inch longer than any other stick, and you may venture to assert that every stick of that wood will fit inside of his stove without having to be broken across somebody's knee. His tool-shed is a model of order, his agricultural implements are kept in good repair, and his live stock is healthy and well fed. If these things are not as I represent then he is not as successful a bee-keeper as he might be, for bee-keeping is, as Mr. Heddon once said, "*a business of details.*"

Hancock Co., Ill.

First Symptoms of Bee-Diarrhea in the Cellar.

BY G. M. DOOLITTLE.

A CORRESPONDENT writes: "Last winter my bees contracted what is known as 'bee-diarrhea' quite early in the winter, and I wish to know what can be done with a colony of bees in winter quarters when the first symptoms of the disease appears. Please answer thru the columns of the American Bee Journal."

If the bees were in the cellar, and the temperature of the cellar was above 50 degrees, Fahr., I would try cooling the cellar. On the other hand, if the temperature was 38 degrees, or cooler, I would try warming it up to the temperature first given, or a little higher. When the temperature of any cellar is just right it may be known by the quietness of the bees. The air of any room is always the warmest at the top, where any warmth-producing material is in such room, and for this reason I always place the strongest colonies as to bees or numbers in the bottom tier, when putting them in the cellar; the colonies of medium strength in the next tier, while all of the colonies having the smallest number of bees are placed in the upper tier, or at the top.

I have found by years of experience that if a strong colony becomes uneasy while in the top tier, it may be quieted by putting it on the cellar bottom; and that a small colony, which is in a roar of disturbance, can be caused to become as "still as death" by raising it from the bottom of the cellar to the top. Also closing most of the ventilation from the hive having the small colony will cause it to become quiet; and removing the whole top from an uneasy strong colony will cause them to quiet down and cluster compactly together for the rest of the winter.

But all this should be attended to when the bees are put in the cellar, by putting them in their proper places, and ventilating each hive as we believe it may require. If, in spite of all this precaution, some of them begin to spot the hive, I will say that, after trying all plans of cure, I now let them alone, for I consider it only a waste of time to fuss with them.

If the reader does not agree, he can try giving them a flight in a warm room. Fix a box to set on top of the hive, the same having a glass top; or should a warm day occur carry the bees out for a flight; but after all this has been done the bees will generally be dead before June, if they have the diarrhea badly enough to spot their combs and the inside of the hive during midwinter or earlier.

One thing which is always against this fussing with single colonies of bees wintering in the cellar which have become diseased, is that by "doctoring" these, the disturbance required is apt to cause the other colonies to become uneasy, and cause them to become diseased also, while otherwise they would have gone thru the winter quiet and all right.

Mr. Whitney holding a frame of Comb and Bees for a Photograph.

A change of food is sometimes beneficial; but, as I said before, the greatest success comes by using the precaution named when putting them in the cellar, and then letting them entirely alone, as far as individual colonies are concerned after they are once prepared for winter.

It is well to enter the cellar where the bees are wintering as often as once in two weeks to a month, to see that everything is all right as to no mice, rats, and the temperature, which should be kept as nearly as possible from 40 to 48 degrees, Fahr. A cellar in which the temperature can be kept from 43 to 45 degrees is as nearly perfect along the line of temperature as can possibly be according to an experience of nearly 30 years with myself and others here in central New York. If the bees are wintering outdoors on the summer stands, and they contract the diarrhea, I am positive nothing can help them short of a warm day in which they can fly freely. And even this will not save them if they become very badly diseased before such a warm day comes. But if such a day occurs at about the time they become uneasy enough to break the winter cluster, then they will generally come thru all right, especially if they can have a chance to fly every two or three weeks thereafter.

I have tried all sorts of plans to cure colonies having the bee-diarrhea that were on the summer stand, such as making a box to fit the hives at the top, the same having the front and top sides covered with glass; placing said box on the hive on sunshiny days, and if the rays of the sun did not give heat enough, putting inside heated bricks wrapt in cloth, till the bees would come out in the box, making everything black and nasty thru their voiding excrement, when the whole was allowed to cool gradually down, and at night the box was taken off and the hive fixt as snug and warm as possible; but in the spring I could not see that such colonies were any better than others which had the disease equally bad, but were left entirely alone, as death generally was the fate of all.

Then I have tried a change of food, taking away all their stores and substituting that from other colonies or combs of honey stored away in the honey-house, or giving them stores of candy or sugar syrup, but in none of these trials could I feel sure that they were any better off than were the diseased ones which were left entirely without any "doctoring."

Bees, to be perfectly healthy when wintered on the summer stands, should have a chance to fly as often as once in every four weeks, but they will usually be in good order if they have no chance to fly from Nov. 15 to Feb. 1. But if this time is lengthened from Oct. 22 to April 7, as we once had it here, very few colonies will be alive at the end of the last-named date. This year I had bees alive in 15 hives out of 93 wintered outside on the first day of May; but there were not enough bees in the 15 hives to make three good colonies. But that very same year I put out of the cellar, on May 5th to 7th, 52 good, strong colonies out of 54 put in the first of the previous November, with cellar and bees fixt as given above. Onondaga Co., N. Y.

No. 3.—An Apiary—How to Make the Most Out of It.

BY "OLD GRIMES."

THERE are four sources of revenue from an apiary—honey, wax, queens and bees. The great majority of bee-keepers work their colonies for honey, while the wax is an incidental product, and queen-rearing is workt by the specialist. If the sale of colonies is depended upon for revenue, the demand is generally limited, and the demand in that direction is soon supplied.

It is a foregone conclusion that the bee-keeper who wishes to get revenue out of his colonies will not only have many of them, but many apiaries. A business that is worth running upon a small scale will pay proportionately well upon a large scale, provided the bee-keeper's ability rounds out so as to keep the balance.

It certainly would be folly to expect success from an apiary located where there are few honey-plants; the field should be carefully lookt over, and the apiary located with as much care as would be exercised in providing pasturage for a herd of cattle or a flock of fatting sheep.

Having located properly, the next thing is to lay out the apiary upon a systematic and labor-saving plan. Wherever the lay of the land will admit of it—and it will admit if it is sought for—the apiary should be laid out according to the Grimes plan—in circles.

The center circle is 12 feet in diameter, and the hives face to the center. The next circle faces out, leaving an operating lane five feet wide. The next circle six feet away facing in, and in like manner additional circles and lanes for one or two hundred colonies. As the hives face different points in the circle, more colonies can be placed in a given area than by any other plan, when working with the bees, and a start is made upon a row of hives, the work is ended where it commenced, and presumably near the entrance to the honey-house.

Where the location is subject to winds, and even if it is not, a wind-break should be provided; cold winds are disastrous upon an apiary in the early spring.

The orthodox methods of securing the honey crop have been recommended and practiced so long that they have become really old-fashioned, and, being satisfied that there is a better way, the Grimes family are seeking in that direction and upon the following lines:

The leading endeavor of the wide-awake bee-keeper is to get his colonies into a most populous condition before the honey-flow commences, and to this end the queen is given unlimited room; and it makes but little difference whether the colony is in a barn-hive, or any style that can be properly examined, the queen can occupy only about so much room, and will rear bees to the extent of her prolificness; and when the field-bees are in a great preponderance over the nurse-bees, and the honey-storing capacity of the hive seems to be restricted, the colony is thrown out of balance and a swarm issues, and a large first swarm early in a good honey season can be depended upon for a large yield of surplus honey.

A non-swarming strain of bees seems to be the desideratum with some of the leading apicultural lights, but there is no reliable method yet discovered whereby this impulse can be prevented when working for comb honey, or, if it is held down, it is to a sacrifice of queens, working-force and honey. Swarming can be prevented in a great measure by the free use of the honey-extractor, but somehow even in this case a colony that has been prevented from carrying out the instincts of nature, altho it may do well for a time, soon gets out of balance, swarms, and thereafter works in a sluggish fashion.

The Grimes family can get the most out of an apiary by working it for both comb and extracted honey. If there are any weak colonies when the bees are placed upon the summer stands, they should be moved alongside a strong colony and workt as a nucleus. If the colonies should all happen to be strong, and they are liable to be when wintered according to the Grimes plan, then as early as possible nuclei should be formed for at least two-thirds of the colonies, or, better still, for all of them, and a laying queen secured even if she must be purchast from breeders further south. This nucleus colony beside the strong one is kept in a semi-nucleus condition by drawing brood from it and giving to the larger colony, the object being to throw that colony out of balance, and to cause an immense swarm to issue at the commencement of the white clover season.

This immense swarm is placed in a hive with only starters in the brood-frames, a queen-excluder adjusted, and upon this two supers of sections, the latter filled with foundation, and the hive is placed in a new location. Nature demands several days' rest for a queen after the issue of a swarm, and she gets what Nature calls for while the bees are building new comb; at the same time the hive is so crowded with bees that the sections are rapidly filled. We prefer to give the bees all new work at first. After a good start has been made, or after the removal of the first case of comb honey, sections with drawn combs can be given to advantage if the bee-keeper should chance to have any on hand. In working for comb honey the Grimes family use the 4¼ section and separators. The new tall section and fence separators may be the thing, but we think that when everybody else gets to using the new form, ours will be so unique that we will get the fancy price for our honey.

The hive and bees upon the old stand are united with the strong nucleus and its laying queen. As the old hive is well supplied with extracting-combs it is workt during the season for that kind of honey. It can be workt for comb honey, but we think it gives a greater profit with the first named.

If a further increase is desired, a nucleus is started with one or two frames of brood and a cell from the parent hive, otherwise the cells are all destroyed. The bee-keeper is troubled with no after-swarms, unless it happens much later in the season during a copious flow from buckwheat or other fall flowers.

It is the plan of the Grimes family so to construct the colonies and the nuclei that they can be wintered in one hive—we then have our nucleus colonies with laying queens ready for the spring campaign.

Before the yield of white honey ends, all filled sections are removed, and the unfinisht ones are concentrated upon the strongest colonies, and there will be but few unfinisht sections at the close of the season. We aim to secure all of comb honey as a No. 1 article; all of the dark honey is secured with the extractor.

The Grimes family are aware that the above plans require a good amount of work, but so does any plan of modern bee-keeping require more skill than it did 60 years ago, when old Grimes was a boy and straw-skeps and box-hives were used.

Bob Burdette says that when he was a boy he always loaded his gun by putting the powder in before he did the bullet; but now they put the bullet in before the powder, and that is the difference between a muzzle and a breach loader; and in like manner with our bee-management. Sixty years from date the improvements will be greater than in the past, and the Grimes family believe in adding their mite to hasten the millennial day.

The American Bee Journal—Historical.

BY DR. E. GALLUP.

THE first volume of the American Bee Journal was publisht before the War of the Rebellion, by Samuel Wagner, a man in every sense of the word. It was then suspended until after the Rebellion was over; or, for five years, if I remember rightly, I knew nothing of its publication, or the first volume, but heard of it in some manner, and subscribed and commenced writing for it on its resumption.

The first national bee-keepers' convention was held at Indianapolis, Ind., Dec. 21 and 22, 1870. At that time H. A. King was publishing the Bee-Keepers' Magazine in New York city. It advocated H. A. King & Co. and the American hive exclusively. It ignored the American Bee Journal and the Langstroth hive—they were never mentioned, and if in writing an article for his paper either the American Bee Journal or the Langstroth hive were mentioned, it would invariably be expunged or dropt out before publication in his paper.

About that time N. C. Mitchell was publishing the National Bee Journal at Indianapolis, in the interest of N. C. M. and his hive. Well, both King and Mitchell tried their soft soap on a man about my size and build, but their pipes failed to connect, altho each offered a handsome bonus to write exclusively for his journal and advocate his hive, etc. But both journals went where the woodbine twineth, as they deserved.

Mr. Wagner was a very quiet, reserved man, so far as blowing his own horn was concerned. He expected and did publish a journal that would, or ought to succeed on its own merits, but came very nearly failing financially. King became frantic about the Indianapolis convention, and was afraid his scheme of keeping the mass of bee-keepers in ignorance of the American Bee Journal and the Langstroth hive would fail, so he got up a rival convention at Cincinnati.

In February, 1871, just after the Indianapolis convention, I received a private letter from Mr. Wagner, stating that he should be compelled to discontinue the American Bee Journal, as he had already sunk nearly $1,500 in the venture, etc. I replied that some 20 old substantial subscribers had a private meeting at Indianapolis, and had canvast or talkt the matter over among themselves, as he had written to one or two others on the subject. We found a large proportion of those that attended the convention had never heard of the American Bee Journal or the Langstroth hive, and did not even know they had an existence, so I replied as follows to Mr. Wagner:

"Now, Friend Wagner, I do not wish to advise, but if you can hold on until after the Cincinnati convention, we, the old subscribers, are bound to make a tremendous effort to increase your subscription list, and place the 'Old Reliable' on a firmer foundation," etc.

Well, we got subscribers at Cincinnati, obtained all the names of bee-keepers we could get hold of, and sent each a copy of the American Bee Journal. Some time after, I do not remember how long, I received another letter from Mr. Wagner, thanking me very kindly, and saying that the American Bee Journal was fairly and squarely standing on its own feet, that it had fully paid up its loss, and more.

Now the readers will see how very near we came to losing the old stand-by, and first in the field.

When I first commenced writing for the American Bee Journal I wrote a series of articles on the subject of bee-keeping, and mentioned that I had never seen the subject toucht on in any writings, etc. Mr. Wagner then sent me the first volume of the journal, in which he had explained the same theory, almost word for word. I felt badly workt up, and askt why he allowed me to go on making such a fool of myself, etc. His reply was, that it was a great satisfaction for him to know that we were both making the same discovery, and at the same time, and each living in different parts of the world—he in Germany and I in America.

I find on reading Mr. Langstroth's book that many of my articles read as if I had copied them from that book, but that could not be, as I never had the book until about two years ago, as a present from Mr. Dadant.

Orange Co., Calif.

CONVENTION PROCEEDINGS

Report of the Chicago Bee-Keepers' Convention.

BY HERMAN F. MOORE.

The fifth meeting of the Chicago Bee-Keepers' Association held Nov. 2, 1899, was one of the most interesting ever held in Chicago. Tho the day was stormy and the attendance small, every one who came was chock-full of enthusiasm and ideas.

Mr. George W. York was elected president for the ensuing year, and Mrs. Stow and Mr. Moore were re-elected vice-president and secretary, respectively.

Mr. York, Mrs. Stow and Mr. Moore were appointed a committee on the entertainment of the United States Bee-Keepers' Association when holding their annual convention in Chicago in 1900.

The committee on resolutions reported the following:

Resolved, That good work has been done in Chicago by the associated bee-keepers in beginning prosecutions of adulterators of honey.

Resolved, That the said prosecutions should be pusht vigorously until there is no fraudulent and illegal sale of bogus honey in Illinois.

Resolved, That we hereby invite all bee-keepers and others interested in pure honey to subscribe to a fund for the prosecution of the aforesaid offenses.

Resolved, That we invite the public to aid us by submitting samples of impure honey, and reporting to the Chicago Bee-Keepers' Association violations of the law.

GEORGE W. YORK,
CHARLES CLARKE, } *Committee.*
H. S. JONES,

Mr. G. S. Crego, of this (Cook) county, not being able to be present, the secretary read his paper, as follows:

Wintering Bees in Northern Illinois.

As I have been askt to present this subject before the Association for discussion, I will briefly describe the method which, so far, has carried my bees thru with the loss of only one colony in four winters.

Not having cellar-room for storing bees, I have adopted the following scheme for taking care of them on the summer stands: Packing-cases are provided, in size some three inches larger on all sides than the hives they are to cover, a slot sawed in the front extending clear across the hive. The passage-way between the cases and hive is carefully bridged over to allow the bees to go and come freely. The space between the hive and case is closely packt with dry leaves raked up on the lawn. In preparing the hives for packing, I remove the cover and replace it with a pine board ¼ inch in thickness, thru which a few half-inch holes have been bored for convenience in fall or spring feeding. These holes are carefully covered with a small piece of thin board at packing-time, then an empty super placed on the board and packt as closely as possible with leaves, in fact, heapt up and running over, and the regular hive-cover laid loosely on top. This thin pine cover next to the frames seems to act as a free conductor to the moisture of the cluster while conserving the heat of the hive very fully. The hand thrust into the leaves in the super in cold weather can instantly locate the cluster by the slight moisture and warmth of the leaves.

When the entire hive, super and all, has been closely packt, a sloping cover of boards covered with tarred roofing-paper is fitted over all, and the bees are left to enjoy their stores in peace.

So much for out-door wintering.

But I have one colony which has been kept in the basement of my house for three winters, and which has been mentioned in the American Bee Journal once or twice. This colony, kept in a temperature which never approaches frost, and which is frequently maintained at 70 degrees for days at a time, has been the most profitable of any colony in the yard. The bees seem to keep up more or less breeding nearly all winter, inspection on a warm day early in March showing large patches of sealed brood, and, by the time the soft maple and elm blossoms are out, the hive is boiling over with bees.

This colony has never attempted to swarm, and has not yielded less than 150 sections of honey any summer since being placed in the basement. The hive is located near a west window, thru the bottom rail of which a slot is cut to allow the bees to fly whenever the weather will permit, and which is taken out entirely as soon as warm weather has come to stay. It is probable that the quality of the queen is largely responsible for the large yields from this colony, but I am inclined to give a large share of the credit to the fact that the bees are always warm—very warm—in winter, and reasonably cool during the hot weather of summer. The consumption of stores is very small, as they are ready to store surplus honey as soon as the dandelions are out plentifully, having had cases of sections ready to remove as early as June 20.

My hives are all dovetailed 10-frames, and, for my locality, are hardly large enough. The only colony I have ever lost was last winter—one which I attempted to carry thru in a 2-story 8-frame hive, the bees being all dead in the spring with at least 30 pounds of sealed honey left in the hive. No more 8-frame hives for me, thank you.

My success in wintering one colony in a warm place has given me an idea which I hope some time to put into practice. I hope to construct one or more greenhouses, and when I do I shall make a bee-repository under at least one of them, placing the hives about level with the surface of the ground, each hive being connected with the outer air by a bridged passage-way, and the interior of the repository being heated with one or more runs of hot-water pipes. It may not work successfully, but at present I believe it will.

G. S. CREGO.

A very interesting discussion followed the reading of Mr. Crego's paper, in which all present participated. Nearly three hours was devoted to this topic, and justly so, for wintering our bees troubles us more than all else.

A number of those present took lunch at the Briggs House cafe, where they divided their time between ideas and food products.

In the afternoon the following paper by W. C. Lyman, of Dupage Co., Ill., was read and discust:

The Best Hive for Northern Illinois.

That hive is best which will produce the best results in honey and the health of the bees, and which is also convenient for manipulation.

Since honey in the flowers must precede honey in the hive, it follows that the apiarist must first know the resources of his location thoroly in order to know what course of management to pursue during the season. The management to be given applies principally to the brood-chamber, for the apiarist can select that form of super which suits him best, either for comb or extracted honey, without any material difference in regard to the quantity or quality of honey obtained, except that separators in some form should be used for comb honey.

The brood-chamber should be large enough to contain honey to carry the bees thru the winter and spring without having to fuss with or feed them in the spring. One of 10-Langstroth-frame capacity will not be too large, but my experience leads me to think that one of 10-Langstroth-frame capacity, and yet not wider or longer than an 8-Langstroth-frame, but deeper, is better than the 10-frame Langstroth hive. This is partly because the supers of an 8-frame Langstroth hive are full large enough to practice the tiering-up method to the best advantage.

I have never been able to obtain better results than where the bees are allowed to swarm once; but I want to hive the swarms in brood-chambers of about half the capacity of those from which they issued, until the close of the white honey harvest, at which time I would give them the same amount of room they had in the spring, and run them the rest of the season for extracted honey, or for winter stores if enough is not obtained for extracting.

By thus using a small brood-chamber at swarming-time, I find that I can use in it combs fully drawn, or the brood-combs which I have in stock, by giving abundant bottom ventilation, and that no pollen will be placed in the section-boxes, altho the supers are removed from the old hive and placed on the new one before the swarm is run in. Of course, a queen-excluding honey-board should be used, and its advantages are so many that I am not yet ready to discard it.

To contract the brood-chamber with division-boards or dummies would not suit me at all, for a number of reasons.

I have taken this subject from the comb-honey standpoint, for I believe the test of successful bee-keeping is in the production of beautiful comb honey.

I have never seen a hive without faults, and the user must select for himself; but, for results, I believe there is none better than some form of the divisible brood-chamber hive.

W. C. Lyman.

Then a multitude of questions were answered by Dr. C. C. Miller and others present. This part of our meeting is always interesting, and many new ideas go floating around for assimilation.

The convention was much entertained by Dr. Miller and Pres. George W. York with music. Dr. Miller presided at the piano, and Mr. York sang the new bee-keepers' song, entitled, "The Hum of the Bees in the Apple-Tree Bloom."

(Concluded next week.)

Dr. C.C. MILLER

QUESTIONS AND ANSWERS.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—Editor.]

Leaving Honey in the Hives Outdoors in Winter.

Do frames with honey get spoiled by leaving them in the winter-time in the hives, with the bees in the first and second stories? Or is it better to take the honey out? Here in the South we do not put the hives inside in winter. The bees sometimes work here in winter on certain flowers.

Louisiana.

Answer.—Have no fear about leaving the honey in the hives. In the North there might be some danger of the honey granulating if the quantity were so large that the heat of the bees would have no effect upon it, but in your latitude there is not that danger.

Feeding Bees in Box-Hives in Winter.

I have two colonies of bees in box-hives that need feeding. How can I feed them this winter? I have made a feeder 14x14 inches, the same size as the hive, and nailed strips around the outer edges, and strips thru the center about two inches apart. Do you think this will work? If not, how can I make one? How would it be to take the bees into the house where it is warm, when I feed them. I can shut them up so they can't get out. I have a Miller feeder for feeding in 8-frame dovetailed hives, but I want one for feeding in box-hives.

New Jersey.

Answer.—If I understand you correctly, the feeder you contemplate is to be set under the hive, and you intend to feed liquid feed. At this time of year you must not think of feeding liquid at all. Take your box-hives in the cellar and turn them upside down—don't be afraid of making them dizzy—and lay chunks of comb honey on the brood-combs. If you haven't comb honey make cakes of sugar candy an inch or so thick. Heat water and put into it about three times as much sugar (either by weight or measure.) Set it on the top of the stove and not in the fire, and be exceedingly careful not to burn it, for burnt candy is poison to bees in winter. Try it from time to time, and when a little of it dropt in water breaks like a pipe-stem, take it off. When it begins to harden around the edges stir it well till it is so thick it will just pour, and pour it into greast dishes. If you can get some *good* extracted honey, you may prefer to make a different candy. Heat the honey till it is very thin, but don't boil it. Take from the stove, and stir into it all the pulverized sugar it will take. Then knead it and put in more sugar till it becomes a stiff dough.

After giving your bees the honey or the candy, let them remain in the cellar, the hives upside down and uncovered, until it is warm enough to put them out in the spring.

Has the Bee an Extra Sense?

1. How does a bee know how to get back home after gathering a load of nectar from a great number of different flowers two or three miles from her hive?

2. Why does a bee, taken from a flower, we will say, south of the hive or tree, and carried north and beyond its home, circle and still go north and away from its home when liberated? The next time it will, after filling its honey-sac, go direct home.

Massachusetts.

Answers.—1. I see no reason why a bee after roaming about after a load of nectar might not find its way home in exactly the same way that you might find your way back home after roaming about two or three miles picking blackberries (on the supposition that blackberries grow wild in your part of Massachusetts.) It is quite possible also that a bee could find its way back home where you or I would be hopelessly lost. A bee may be able to see long distances, and it is not entirely certain that a bee may not have some additional sense that enables it to find its way home. Take a cat that has never been a quarter of a mile from home, shut it up where it cannot possibly see, take it two miles away and release it, and we are told that when you get back home you may find it complacently waiting for you on the doorstep. Certainly, no human being could perform that feat. Has the cat an extra sense? If so, may not the bee have the same?

2. I don't know; and before believing a bee will do as you say I should want reliable testimony to that effect.

Growing Alfalfa in New York State.

There is some talk in the American Bee Journal that alfalfa is a great honey-plant, also a good pasture for stock, but in the 1896 American Agriculturist Almanac I saw an account of alfalfa as an injury to sheep and cattle as a pasture, claiming that sheep and cattle will feed on it for days without ill effects, but sooner or later trouble arises. Under certain conditions sheep become inflated like balloons, and die suddenly from eating moist alfalfa. What about the plant, both as a pasturage for bees and stock? And on what kind of soil will it do best? Will it grow on limestone ridges? Is it grown in this (Jefferson) county?

I shall be very thankful to see a full account, given from actual experience, if possible. If advisable, I would like to try the plant.

New York.

Answer.—Alfalfa is very largely used as a forage-plant, both in the green and dry state, and if it were true that such ill results would sooner or later come from its use, many would know of it and so report. It is probable that damage may be done by allowing cattle not accustomed to it to overfeed, as is the case with red clover. It has been grown here and there in different places in the East, but I do not remember ever to have seen a single report saying it was of value as a honey-plant, except a report from Michigan in a late number of Gleanings in Bee-Culture. It is just possible that alsike instead of alfalfa was the plant in that case. Alfalfa grows in two or more places in this county, and I have visited it two or three different years when in bloom at a time when bees might be expected to be working on it, but never could I find bees there. Of course, it is a very valuable honey-plant in the West, as in Colorado, but it is probably not worth your while to try it as a honey-plant in the State of New York.

The Premiums offered on page 13 are well worth working for. Look at them.

THE AFTERTHOUGHT

The "Old Reliable" seen thru New and Unreliable Glasses.

By E. E. HASTY, Richards, Ohio.

BEES AND HONEY OF THE ANCIENTS.

Prof. Wiley, page 740, seems to me to build far to much on the mere phrase, "ethereal honey," in Virgil. The ancients were not such fools as to be unaware that bees, *some of the time*, visited flowers for sweet. It was when they saw them gathering dew, and when they saw them gathering—we even now know not what—from the surface of fresh or newly-thawed soil, and when they saw them at work on what we now call "honey-dew," that they concluded that another, and perhaps larger source, of sweet direct from the air was open to them direct from the air. And some persons stick to that opinion yet. Virgil, in the same poem Mr. Wiley quotes, directed not to plant an apiary on a cattle-range or sheep-walk, and gave at least one correct reason—because stock destroyed the flowers. This shows clearly that Virgil thought flowers a material source of supply, and not a mere trifling one. In fact, Prof. Wiley heedlessly upsets his own position by quoting the ancient yarn about $650 worth of honey from an acre of flower-garden.

DEMOCRITUS AND DEMOCRATS.

I thank the Professor for the name of that fellow who said, "oil without, honey within," when askt how to live a hundred-and-odd years in vigor. Democritus his name was, it seems, and 450 B. C. Have been looking for him for some time. If I go to forget again I'll think of Democrats. The Democrats are living out their first hundred years in vigor, and are likely to go in for another century—but not on oil and honey—"loam without, gall within," would be the way the Republicans would state it.

DAKOTAN METHODS AND APIARY.

I laught when I read Comrade Hobbs' boast that he could sit in a chair and take his swarms. Let's send for some of his queens—or, perchance, if we had a Dakotan or South African veldt to keep bees on, our present stock might fail to cluster on nothing 30 feet up. His apiary plan seems to be excellent in some respects, and not so good in others—badly lacking in *location points*. If he would move that chicken-coop we see at the right, to the center front, and then take a shovel and throw up a couple of mounds of dirt midway between coop and wings—well, the aspect would not be improved, but the apiary would be a better apiary. The endless single row, every hive just alike, does have a certain impressiveness poetically considered.

DOOLITTLE ON WINTER BREEDING.

Doolittle puts it well about winter breeding, on page 738—two old bees lost for each young one reared, while in proper season two young are reared for each old one worn out.

STRAINING AT GNATS AND SWALLOWING CAMELS.

Editor Leahy's a good fellow, but he deserves the clip the editor gave him, page 745—would strain out the national convention essays (which are not even gnats at all), and swallow the camel of five pages of romance. What an appetite for camels most of us have! Note how our not-so-bad-as-it-might-be government abolisht the national cock-fight the minute it got to Manila—and introduced the American saloon!

A QUEEN-REARING SUGGESTION.

And so the largest queen-breeder in Australia says bees *do* remove all royal jelly given them with larvæ—yet he gets more accepted that way, and thinks it works as a suggestion. Page 747. Why not give them the suggestion on a chip, and save the babies from being tumbled about?

A NICE HOUSE-APIARY.

On page 753, Mr. Goudge gives us something out of the ordinary line in a nice house-apiary built to accommodate only five colonies. He did well to keep the cash cost down to $3.00 a colony, he doing and not counting the carpenter work. At the very antipodes of Mr. Hobbs, just reviewed, Mr. G. seems to be almost excessive in his painstaking efforts to enable bees and queens to locate. He doesn't explain what the curious round-spottedness about the entrances is—possibly that also is location-marking of a fancy sort.

PROPOLIS AS GRAFTING-WAX.

Proper glad to see our Deacon again, page 754. Thought we'd lost him. Quite interesting to see that he made a success of using simple, unmixt propolis for grafting-wax. I think climate must have something to do with it. It is indeed Nature's own grafting-wax; but I suspect that the wax Nature makes in our July, and the average weather in our grafting-time, are a little too unwilling to yield to each other.

SOUTH AFRICAN HONEY-GUIDE—A SOLILOQUISM.

Of course, information concerning that little wise-head (or lunatic), the African honey-guide can hardly be else than interesting. Very few things in animate Nature seem more worthy of careful study than the psychology of that little chap. Early reports gave us the idea that he always led to honey, and that his object was to get a share of the plunder himself. The first, it seems, is false, and the last at least very doubtful. Bees are not usually taken immediately on being found; so the guide gets nothing, unless he happens around weeks later. Theories have to be reconstructed, apparently. I feel as tho I have evidence that wild squirrels, and at least a few wild birds, are aware that man is a higher creature than themselves, and that occasionally they feel a strong desire to open communications with him somehow (as our astronomers burn to open communication with Mars). Honey-guide simply an extreme example of the same sort—intense and excitable, and chock-full of big thoughts and curiosity, he often wants the *companionship* of some other wise being, wiser than himself, in the contemplation of some of his *problems*. Alas, like children asking questions, he sometimes oversizes us! And one of his commonest problems is, it seems, Why (in a world generally nice) should there be such disgusting creatures as big snakes? And at least once (many thanks to Mr. Deacon for the evidence), Why should a human being lie drunk on the ground? The problem whether tiger would eat Deacon, or Deacon eat tiger, is so-so, altho not so deep. What the problem is in regard to bees is not so plain as one could wish. We don't know from what point of view he regards them. I *guess* he regards insects simply as provender, and that the problem is, Why should provender have such sharp tails, and get together in such armies that a fellow has to stand off and let them alone?

NON-SEPARATORED HONEY.

Mr. Stone rather threw—himself—in the eye of the no-separator fellows, when he said that only about 20 pounds of the entire lot of no-separator honey at the World's Fair was fit to ship and sell. Page 758.

FERMENTED HONEY FOR BAKING.

If Chalon Fowls, indorst by Gleanings in Bee-Culture, says some bakers prefer fermented honey to sound—well, that militates pretty strongly against some recent "Afterthinks;" but let's have the whole evidence without fear or favor. May there not be an adjustment possible, like this: Slightly tart honey giving the better *flavor* to some cookery, and sound honey giving the more of the moisture-attracting quality? The latter quality is all that a baking trust would ever buy a carload of honey for, I take it.

DON'T "MONKEY" WITH FOUL BROOD.

Some of us were not aware that young queenless bees, and young bees with a virgin queen, were more persevering and thoro in cleaning filth from combs than normal colonies are; but it's not altogether unreasonable, and if Editor Simmins says it, it's pretty likely there's *something* in it—a something which the bee-man who wants his general-knowledge box fully equipt would better make a note of. But, on the whole, this critic would say, Dangerous business for the boys to get at—these foul-brood experiments on pages 762 and 764. Say, let the foul brood alone, and monkey with a toy cannon.

Queenie Jeanette is the title of a pretty song in sheet music size, written by J. C. Wallenmeyer, a musical bee-keeper. The regular price is 40 cents, but to close out the copies we have left, we will mail them at 20 cents each, as long as they last. Better order at once, if you want a copy of this song.

AMERICAN
ESTABLISHT IN 1861 OLDEST BEE-PAPER IN AMERICA
BEE JOURNAL.
DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS.

PUBLISHT WEEKLY BY
GEORGE W. YORK & COMPANY,
118 Michigan Street, Chicago, Ill.

[Entered at the Post-Office at Chicago as Second-Class Mail-Matter.]

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GEORGE W. YORK.

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IMPORTANT NOTICES:

The Subscription Price of this journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "Dec00" on your label shows that it is paid to the end of December, 1900.

Subscription Receipts.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows you that the money has been received and duly credited.

Advertising Rates will be given upon application.

VOL. 40. JANUARY 4, 1900. NO. 1.

EDITORIAL COMMENTS

NOTE—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

1900. How does it seem to write it?

The Last Year of the Nineteenth Century! Let us all try to make it the best year we have yet known.

Volume XL, or the Fortieth Year, of the American Bee Journal, is begun with this number. As almost every one knows, it was founded by Samuel Wagner, in 1861. He died Feb. 17, 1872, now nearly 30 years ago. His son "George" conducted the journal until Jan. 1, 1873, when Rev. W. F. Clarke secured control of it, and removed it from Washington to Chicago. In 1874 Thomas G. Newman took hold, and continued its publication uninterruptedly until June 1, 1892, when the present management was installed and has since that time been able to make the old American Bee Journal what it is to-day.

Many have been the changes in matters apicultural during the past nearly 40 years, but with the exception of a few years during the Civil War, the American Bee Journal has gone steadily on, increasing in power and usefulness until to-day it is said by those who are best able to judge that it has never before been so good in every way. We do not take all the credit for this ourselves, as we know that it has been accomplisht only by the loyal support of subscribers, advertisers and contributors, who, together with our own efforts, have been able to build up a weekly journal that fairly represents the great and ever-growing industry of bee-keeping on the American continent.

On another page we give an historical article written by Dr. Elisha Gallup, who is one of the oldest contributors to the columns of the American Bee Journal. He now resides in Southern California, and is somewhere near 80 years of age. The article was written by him several years ago, but we have kept it until now. We think it is very appropriate at this time, and will be read with much interest and profit by all, especially by those of our readers who doubtless were intimately acquainted with the historical matters mentioned by Dr. Gallup.

It will be our highest aim, in the future as in the past, to make the old American Bee Journal just as good as the support given it will allow. Our main object in life is not to accummulate great wealth—if it were we would go into some other business. We desire, above all things, to be helpful, to live for some noble purpose, and believe that in devoting our best energies to publishing a strong, clean and useful journal for bee-keepers, we shall feel, when life's end shall have come, that we have not lived in vain.

We trust that during the coming years the American Bee Journal may merit even larger support, and ever maintain the position which we believe it has rightfully won in the hearts of its readers and in the field of apicultural journalism.

The Bee-Keeper's Best Reading-Time will likely be during the next two or three months. It would be a splendid thing if all who are not already expert in the business would get together their last year's bee-papers and re-read them. Then study that bee-book, too. Oh, you haven't any? Well, that's a great mistake.

No young bee-keeper worthy the name will likely make a very great success with bees if he tries to get along without a good bee-book. And we don't say this because we have such books to sell, but because we know it is the truth. Every good bee-keeper has the best bee-books and the best bee-papers he can find.

It pays to read the methods and experiences of others. Life is too short for one lone person to attempt to find out everything for himself these days. You might as well try to succeed in producing wheat now by cutting it with a sickle instead of a self-binder, as to try to be successful with bees and still use the box-hive and old-time methods.

Short cuts are the order of the day. Read up and learn how others succeed, and then follow in their footsteps unless you can do better than they do.

Honey from Mount Hymettus.—It seems from the following that our good friend, Hon. Eugene Secor, has been receiving a novel Christmas present:

> EDITOR YORK:—One of the mementoes I received at Christmas is a tin can of Attican honey, put up in Athens, and said to be "Veritable Miel Du Mont D'Mymette," which I suppose means "genuine Mount Hymettus honey."
>
> The gift was from a young friend, B. J. Thompson, who returned last spring from a tour around the world, and visited Greece.
>
> Sentiment and story cluster around the sweet product of Mount Hymettus, and, I suppose, a money value to the overworkt bees of that world-famed region.
>
> I found the flavor peculiar. It is hardly fair to compare it to our best product in fresh condition, but if the tastes of the family are worth anything, it will not supplant the delicious nectar of our own beloved country.
>
> Yours truly, EUGENE SECOR.

Mr. Secor will have to bring that famous sample to the next national convention, and let his friends have a taste of it. Perhaps few of our bee-keepers ever tasted honey from the famous region of Mount Hymettus.

The Hive Question will not down. Nor need it so long as it is an important one and not fully understood. L. Stachelhausen discusses it in Gleanings in Bee-Culture in what appears to be an able, pholosophical manner. He is led to the conclusion that for extracted honey a large hive is best, and for comb honey a small one. The aim is to have as many gatherers as possible for the harvest, and as few consumers as possible when no honey is coming in. From the time the queen begins laying, whether it be Feb. 1 or later, up to the time of the harvest, with him the last of May, there is a gradual increase of laying, reaching some 3,000 by the last of April. That allows more than 100,000 workers to begin on the harvest. If the room be so restricted that the queen can lay only 1,600 eggs in a day, then there will be only some 50,000 workers at the beginning of the harvest.

During the honey-flow it is desirable to have the laying restricted, and it is probable that the queen in the larger hive will lay less than the other, for she has become more exhausted by the larger number of eggs already laid. By the close of the harvest there will be the same number of bees to support in the small as in the large hive. The main point of difference is that in the small hive the queen reaches her maximum of laying three weeks before the harvest, and the queen in the large hive increases up to the harvest. That makes the big difference in the number of harvesters.

Somewhat different conditions prevail in working for comb honey. It is desirable that when the harvest begins the brood-combs shall be as full as possible of brood, and kept full. This is more easily accomplisht if the queen has been somewhat restricted in her laying by a small hive, for in that case her laying powers will not be exhausted, and the brood-combs will be occupied with brood, forcing the honey into the sections.

Australia vs. America.—American bee-keepers sometimes envy the bee-keepers of Australia when they read of the big yields obtained; but Australian bee-keepers have troubles of their own. The honey-yielding trees that bear so conspicuous a part are being cut down or ruthlessly killed by ring-barking; the London market does not take kindly to Australian honey; and prices in the home market are very low. The Australian Bee-Bulletin says:

> "We know a bee-keeper whose word may be relied on, and he tells us he has been out of pocket £100 a year for five years."

It seems to us that the bee-keeper mentioned must have had to draw pretty heavily on what has been called in this country "the bee-keeper's bank account"—Hope.

Jamaica, we learn from the American Bee-Keeper, contains 4,207 square miles, and is located only 90 miles south of Cuba. The census gave the population as 14,692 whites; 121,955 hybrids; 488,624 blacks; 110,116 coolies; and 481 Chinese.

Mr. E. M. Storer, the correspondent furnishing the above information, says he thinks bee-keepers in the United States need not fear Jamaican competition, as the country is too small for its honey product to be of sufficient importance in the world's markets.

Have Italians Longer Tongues?—An editorial in the British Bee Journal says:

> "Regarding the supposed longer tongue of the Ligurian bee, most bee-keepers of experience now look on it as an exploded fable."

"Honey Calendar" in place of Almanac—Sample free.

The Weekly Budget

MR. W. J. CRAIG, as previously announced in these columns, is the new editor of the Canadian Bee Journal. We are permitted to show herewith a picture of our new editorial friend. Londonderry, Ireland, was his birthplace. He went to Canada some ten years ago, and there met Mr. R. F. Holtermann, who taught him bee-keeping. He has been employed for some years by the Goold, Shapley & Muir Co., and naturally falls into the editorial chair. We bespeak for Mr. Craig a royal welcome among the Canadian readers of bee-literature, and also a successful career as a bee-paper editor.

* * * * *

MR. G. M. DOOLITTLE is offered the following suggestion by Mr. John Suter—a bee-keeper in New York State:

> "EDITOR YORK:—Please tell Mr. Doolittle to keep a few bees; they are good for rheumatism."

Mr. Doolittle, we believe, has been suffering from rheumatism, so Mr. Suter's hint ought to be acted upon!

LATER.—Here comes another good friend, from the State of Washington, Mr. R. G. Haun, who also wishes to do Mr. Doolittle a "good turn:"

> "By the by, tell that 'boy' Doolittle to buy 25 cents' worth of oil of wintergreen, take three drops on sugar four times a day for eight or ten days, and it will do him more good than any amount of bee-stings."

Mr. Doolittle might act on both of the above suggestions—take the oil of wintergreen internally and the bee-stings externally. Still, the concussion caused by their meeting might not be so beneficial to the patient. But Mr. D. can experiment "along that line" and find out.

* * * * *

GLEANINGS IN BEE-CULTURE has just given us a kind notice, as well as a place among its collection of illustrations. We appreciate the courtesy and honor, especially the following paragraph, which appeared in connection with the picture of this pencil-pusher:

> "The 'Old Reliable' was purchast by Mr. York of Thos. G. Newman at a time when the latter was steadily declining in health, and found it necessary to seek a change of occupation and location. While the American Bee Journal has always been a standard publication, it now stands head and shoulders higher than it ever did before. Always typographically neat, always punctual, a practical, up-to-date weekly, it fills a niche by itself, for no other bee-paper has 'sand' enough to make weekly visits."

* * * * *

HON. GEO. W. WILLIAMS, while on a visit recently to Higginsville, Mo., gave a lecture on bees to the school children. The Progressive Bee-Keeper says: "Mr. Willams is a pleasing and gifted lecturer, and we hope other localities will try to secure him for giving bee-talks to the school children.

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BEEDOM BOILED DOWN

Getting Bees Out of Box-Hives.—An old plan given years ago is brought freshly to light in the German bee-journals: Invert the hive in a tub; then pour in water *slowly*.

Face all Hives the Same Direction.—F. J. Davis prefers hives facing west for winter, and especially prefers to have all hives face in the same direction. He says that if part face east and part face west, the bees of the hives facing east are attracted by the afternoon sun to play with their western neighbors, resulting in their remaining altogether, thus strengthening the western ones to the damage of the easterns.—Canadian Bee Journal.

Lace-Edging of Sections is much practiced in England. The lace paper hides the edge of the comb, so that it cannot be seen whether the cells next the wood are sealed or not. The amount of paper is sometimes carried to such extent that a rule has been made for exhibitions that 3½ inches square must be left uncovered by the paper. W. Woodley says an exhibit of his was disqualified by an encroachment of 1-16 inch on the 3½ inch space.—British Bee Journal.

Does the Size of Hive Influence Swarming? is a question askt by the editor of the Australasian Bee-Keeper. He says, "I am rather inclined to believe locality, surroundings, and manipulation have more to do with it than size of hive," and calls for the experience of others. Some one lately in this country—wasn't it Critic Taylor?—advanced the idea that there was more swarming with large hives, because they had larger populations, and large population was an important cause of swarming.

A New Kind of Honey-Dew, F. Greiner thinks he found last August, as he reports in Gleanings in Bee-Culture. The bees were roaring on honey-dew from chestnut, oak, and hickory, which seemed to be of the ordinary kind, with abundance of aphides present, while another kind of better quality and less quantity was found on pear trees. For some reason the bees paid less attention to this latter. Aphides were absent, and the honey-dew seemed to be in drops at the point where the stems of the leaves joined the stock. That looks as if the honey-dew exuded at that point, only the drops had a concave instead of a convex surface.

The Munday Frame is described in Australasian Bee-Keeper. It has the same depth as the Langstroth, and is about ¾ as long. The top-bars are ¼ inch thick and 1-7-16 wide, fitting closely together, frames running parallel to the entrance, the only place for the bees to get from the lower to the upper story being between the front wall of the hive and the first top-bar, and also between the back wall and the last top-bar, besides at the ends of the frames. Ten frames are used in a hive. Among the advantages claimed are these: No brace or bur combs; no pollen and no discolored comb in the honey-chamber; no draft thru the brood, but plenty of ventilation by way of the sides of the hive; if the cover is blown off, the bees will be all right for days without it, as the tight-fitting top-bars answer for a cover.

Badly Masht Comb Honey.—We lately received a shipment of comb honey, and in this was a lot that was about as badly masht as it could be. Some of it was so jammed and mangled, if I may use that word, that it was not even fit to put out for chunk honey. The better part of it we

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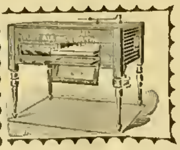

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Root's Column

GLEANINGS IN BEE-CULTURE.

Our NEW YEAR'S NUMBER is not behind those that have lately appeared. Among the special features is an illustrated poem by Alice Lena Cole, from the Century Magazine; also

SUB-EARTH VENTILATION AND OUT-DOOR WINTERING.

COLORADO AS A BEE-COUNTRY.

SUPPLIES FROM THE STANDPOINT OF COLORADO BEE-KEEPERS.

SUPERIOR BREEDING-QUEENS, by J. F. McINTYRE, of California.

TALL SECTIONS, Etc., by J. E. CRANE, of Vermont.

A VISIT TO A CUBAN APIARY.

G. M. Doolittle, of New York, will continue, as heretofore, to give us the best from his pen on "Answers to Seasonable Questions." The illustrations will be of the same high order as in the past.

We have a few special offers to make to NEW SUBSCRIBERS ONLY, and with these conditions: You will mention this paper when you make your order, and specify the OFFER NUMBER as we indicate below:

Offer No. 11—All for $1.00.

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The Poultry-Keeper, one year	.50
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(If you wish we will substitute the Reliable Poultry Journal.)

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Maple Sugar and the Sugar Bush, 1 copy	.30
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McClure's Magazine, one year	1.00
The Prairie Farmer, one year	1.00
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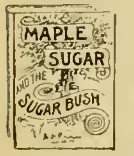
WINTER CARE of HORSES AND CATTLE

RELIABLE POULTRY JOURNAL, of Quincy, Ill., and the POULTRY KEEPER, of Parkesburg, Pa. (both monthlies) are leading poultry journals, and you will make no mistake in selecting either of these. McCLURE'S MAGAZINE and the COSMOPOLITAN are too well known to need any comment. WINTER CARE OF HORSES AND CATTLE is T. B. Terry's second book in regard to farm matters; but it is so intimately connected with his potato book that it reads almost like a sequel to it. If you have only a horse or a cow it will surely pay you to invest in the book. It has 44 pages and 4 cuts.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THE A B C OF BEE-CULTURE, the only encyclopedia on bees, has already been described in this column. About 2,600 copies of the last edition have been sold since it came from the press late in September. Specimen pages of this free.

Watch for our announcement in this column next week.

THE A. I. ROOT CO.,
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placed in wooden butter-dishes, and sold for chunk honey. The rest we put into a large cheese-cloth bag and then suspended it over a tub. It hung thus over night, and the next morning the liquid portion of the honey had all run out, leaving practically nothing but dry combs and pieces of combs in the sack. Of course, if there had been sealed honey it would not have drained; but that to which I refer was so badly smasht there were no cappings over the cells. The particles of wax floated on the surface of the honey, leaving the clear liquid portion of it to settle at the bottom, and strain thru the cheese cloth. In the morning, we had a bag of dry bits of comb, or almost dry, and a tub of clear extracted honey.—Gleanings in Bee-Culture.

How do Worms Get Into Sections?—When worms are found on sections of honey that are sealed up tight immediately upon being taken from the hive, it is said the bees carried the eggs there on their feet. Does that look reasonable? Are the eggs in places where the feet would touch them? Would they stick to the feet? Pull the head off a moth, and almost immediately it begins to feel around with its ovipositor for an angle or a crack, not laying till it finds one. Are not the little worms on the sections first found at an angle? Considering what an artful dodger the moth is, how swift in its movements, and how constantly trying to get into a hive, is it not more reasonable to suppose that it has dodged its way thru the hive and made its way into the super?—Gleanings in Bee-Culture.

Getting Unfinisht Sections Cleaned Up.—D. W. Heise says in the Canadian Bee Journal:

"What I have found the most rapid plan of getting such cleaned up, is to set the supers containing the sections or frames right out in the open, 'with certain precautions,' and let the bees rush into them pell-mell. The precautions are, place the combs or sections at least 1½ inches apart in the supers, place the supers about 100 yards from the hives about 4 o'clock p.m., and then only as many as you think the bees will clean up that day. Don't remove those cleaned supers until you replace them with others at 4 p.m. of the following day, and so on until all have been treated by the bees. After all are clean don't remove the empties suddenly, but gradually decrease them day by day until the last one disappears, and you will find the whole job expeditiously completed without any violence having been done to the most delicate comb, unless perchance some should contain candied honey. Neither will you find any robbing, nor excitement after the job is completed. The only thing that bee-keepers have to fear by any of the 'let at plans,' is the spreading of disease. If any of the deadly germs should be lurking in the honey, and it is for this reason that I would strongly advocate setting out along towards evening, thereby decreasing the chances of bees coming from other apiaries. As to the theory of 'once a robber always a robber,' I take no stock in that whatever."

Colonies Differ as to kinds of Honey and Wax.—Speaking as to this, W. Hessel Hall says in the Australian Agriculturist:

"If clover and dandelion are both out and secreting honey at the same time, the bees do not flit from one to the other, but the bee that starts to work on clover continues to visit clover as long as the supply of clover honey lasts; and the bee that starts on dandelion, sticks to dandelion. The legs of the one will always be found covered with the dull greenish pollen of the clover, and the legs of the other with the bright yellow of the dandelion. This peculiarity usually applies to the hive as well as to the individual bee, and it is quite a common thing in the apiary to find one hive filled with one type of honey, another alongside it filled with a totally different honey, and a third with yet another kind, all gathered within the same period. Indeed, the preference

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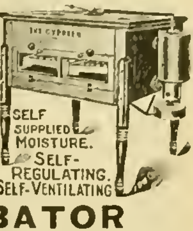
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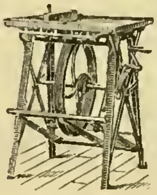

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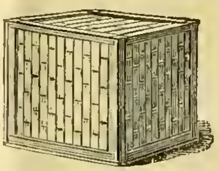

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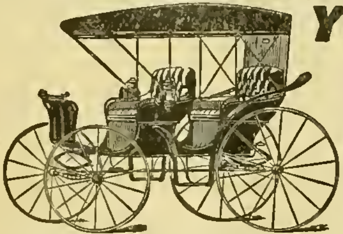

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shown by certain colonies for certain flowers is often very markt. In the writer's apiary, at Lapstone, when the maize crops and the (red) bloodwood are in bloom at the same time, certain colonies can be relied upon to fill their hives with the pale, mild, sweet maize honey, and others with the rich yellow, glutinous honey of the bloodwood; and in this case it is remarkable that even the wax secreted by the bees after eating the two types of honey will be different. The new comb wax from the colony working on maize will be pure white, and tender and crumbly to the touch; while the wax in the hive of the colony working on bloodwood will be a bright yellow, and tougher in texture."

GENERAL ITEMS

Report for the Past Season.

Bees did poorly in this locality the past season. I had eight colonies, spring count, increast to 10, and got only 150 pounds of comb honey, which sold for 15 and 20 cents per pound. Quite a few bees are kept here, but most of them in a go-as-you-please way and no surplus is gotten by such management. M. P. Lowry.

Armstrong Co., Pa., Dec. 18, 1899.

Honey Crop Short.

I commenced keeping bees in frame hives in 1895, and subscribed for the Bee Journal also. I then had 13 colonies, but I have increast to 70 now. I could have had more, but I have been keeping down increase by giving them shade, room, ventilation, etc., honey being my chief object. The honey crop was short here the past season. I obtained only 1,600 pounds, in one pound sections from 47 colonies, spring count. I use the tall sections and like them better than the square ones.

What I have learned thru the columns of the American Bee Journal the last five years has been worth a great deal more than I paid for it, so here is my $1.00 for 1900. May the year 1900 be the most prosperous year on record for the American Bee Journal, is my wish.

V. V. Roush.

Adams Co., Ohio, Dec. 16, 1899.

Pretty Well for a Side-Issue.

My bees did very well this year. I use the 8-frame Langstroth hive, and run them entirely for comb honey. I have 35 colonies that produced 4,000 pounds of honey, which brought 14 cents a pound in the St. Louis market. This does very well for a side issue, and I attribute my success to the American Bee Journal.

John Fleming.

Calhoun Co., Ill., Dec. 12, 1899.

A Pennsylvania Report.

Last spring we had every reason to expect a large yield of honey, especially those who had taken proper care of their apiaries. Of course, there were some losses in wintering, and in apiaries where there are many losses the bees that do get thru are generally in a weak condition, and so much is not expected. Tho the winter had been severe, cared-for colonies came thru strong, and the early blossoms were abundant, and never in the more than 15 years of my bee-keeping have the bees done quite so well in building up as last spring. Never, to my recollection, was there such an abundance of elm and maple bloom. Fruit-bloom was not so profuse. But, alas, white clover bloomed abundantly, but no honey. Basswood bloomed well, but it was too cold and wet.

What white honey there is brings 14 to 16 cents wholesale; fall honey 12 cents, and in demand. Extracted honey, that is strictly fine, sells for 12 cents to customers who appreciate a good article. The yield per colony was from nothing, in some apiaries, to about one-third of an average crop. There was but little strictly first-class white honey. One thing encouraging about the "luck" is that bees have gone into winter quarters with plenty of good stores.

GEO. SPITLER.

Crawford Co., Pa., Dec. 13, 1899.

Her First Year of Bee-Keeping.

This is my first year at keeping bees. I bought one colony last spring, and I got 48 pounds of comb honey from it, and built up another little colony that we bought Aug. 1, so there are two good colonies now. The first colony I paid $8 for; the second, $2. Sept. 1 I bought three colonies for $18. I had to feed some in October. I bought another colony for $6; it is very small, so I took out three of the brood frames and packt woolen carpet on each side, and fed syrup until it filled the five combs about four-fifths full.

We have had a dry, warm fall, and my bees are flying to-day. They are on the summer stands yet, but I will put them in a frame house when the weather turns cold. I have all the hives covered with carpet.

We have 36 acres of alfalfa clover. I want to sow all kinds for the bees. We are ten miles from town, and five miles from other bees.

I planted some mignonette in the garden, and the bees workt on it until frost, which was Oct. 22. I saved a pound of seed to sow next spring. MRS. BEN. FERGUSON.

Ford Co., Kan., Dec. 1, 1899.

Last Winter Cold for Bees.

My bees are getting along first rate so far. They averaged 75 pounds of honey per colony. I had only four colonies. I am wintering only two colonies, as one died, and the other I killed and sold the honey for 15 cents per pound.

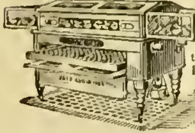
All the bees in this neighborhood froze out last winter. I had seven colonies packt with two feet of straw all around them, still they froze. They all had honey left. I saved two colonies out of seven. I think packing is a humbug. It was so cold here last winter that if you would take a bucket of water and spill it, it would freeze just as soon as it toucht the ground. It was 40 degrees below zero for about a week. The ground was crackt and everybody's potatoes froze. It was the coldest known here in 45 years. B. F. SCHMIDT.

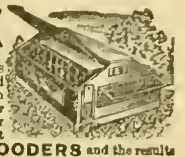
Clayton Co., Iowa, Dec. 8, 1899

Introducing Queens, Etc.

We are having pretty nice weather here. The bees are still flying a great deal of the time. Sept. 2 I got a premium queen which I caged for eight days on a one-pound section of honey on which I put wire screen on each side so she was secured safely. I then took out a center brood-frame, cut out a piece of the comb in one corner of the frame as big as the section, and then inserted the section on the bottom-bar; I then tightened a piece of wire around the frame to have it all secure, as the bees kept on building queen-cells. I left her that way till the seventh day, then took the queen, put her into the old Peet cage, as the bees showed anger every time I opened them, and left the job for the bees to release her themselves. The next day they had her releast and accepted her all right. I tell you, she is the finest breeder I ever saw, and her bees are just yellow all over. They are just like queens themselves. I would not take $2.00 for her.

How is this? Some years ago I had my bees away from home. I was down looking at them the latter part of August, and found, to my surprise, an after-swarm hatching perfect workers except the heads, which were just like drones' heads. The





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PAGE

THE OPEN DOOR POLICY

sounds all right, but the open field had better have Page Fence around it, with one or two Page Gates.
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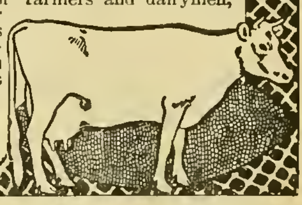

A Further Offer: We will give Dairy and Creamery for one year as a premium to any one of our readers who sends us one new subscriber to the American Bee Journal for one year at $1.00. Unless these offers appear again after March 1, in these columns, they will be withdrawn at that date; so you would better take advantage of them at once. Address,

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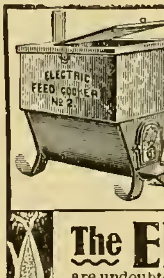

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Please mention Bee Journal when writing.

bees were then carrying them out of the hive about as soon as they hatcht, as they were then killing off their drones. They were crawling in front of the hive all over on the ground, as they were too young to fly. I lost that colony in the winter, so I had no experience as to what that kind of a bee with a drone head would amount to. Besides the head, they had stings, and were perfect in every way, like the workers. I should say one-third of them were bees like that. Has anyone ever seen bees like that? If so, please let us hear from them, and what the cause is. I was led to think the queen had been detained from her wedding-trip too long for perfect workers.

JOHN PEDERSON.

Chautauqua Co., N. Y., Nov. 30, 1899.

A Beginner's Experience.

Let me give my experience as a beginner in bee-keeping. I am of mature age now. My father kept bees when I was young—I think that's the reason why I always had a liking for bees, and to have some pastime I bought, in 1898, 7 colonies of black bees, and I got "sold" badly. They were in old, home-made boxes, and non-movable frames. I could look in on top and that was all.

Well, I took the hives home and put them on stands, and they were ready for business. By May 1 two had taken French leave; two more were robbed out and followed suit. By this time I got a bee-book and studied it, and found I had made a bad mess of it so far. I got new, modern, 8-frame hives, with full sheets of foundation, to put new swarms in. I had two prime swarms and four after-swarms, the after-swarms coming out close together. I united them in two hives; this gave me four strong colonies in modern hives. Two I gave Italian queens. I was unable to find the old queens myself, so I got a doctor who also keeps bees to find them for me.

Fall came, but no honey for me; but all except one were well supplied for winter, and the one I fed. My cellar is cold but dry, the south wall being above ground. I put Hill's devices and chaff cushions over the bees, in a super, and raised the hives about 1½ inches from the bottom-board. When the cold snaps came, and the thermometer went down to the freezing point, I put a large kerosene lamp in the cellar, and this raised the temperature five or six degrees, but the thermometer was never above 40.

April 10 I took the bees out; they were all alive and strong, all having plenty of honey except one, and three days afterwards they had from two to three frames well filled with eggs.

Bee-keepers in this neighborhood lost heavily last winter—one lost all, and others from one-third to a half. None read a bee-paper but the doctor.

My bees went to work in fine shape. About May 1 I transferred the three old colonies to modern hives, and thereby lost one queen. I gave them a frame with eggs from my Italians, and they soon had a hybrid queen. By June 9 the first swarms came. After the black bees had swarmed I cut out all queen-cells and gave them one of my Italian queen-cells in a cell-protector. Thus I have all but five Italians or hybrids. One Italian colony gave me four supers full of honey, but had little honey below. Seven colonies, spring count, gave me 300 pounds of comb honey, and increast to 16. No other bees have done as well here. My bees are now in the cellar, packt the same as last winter.

This success I attribute to reading the American Bee Journal and bee-books. The old bee-keepers around here are surprised at my success, and are asking me now for advice. But to take a bee-paper in order to be informed on this matter is above their comprehension! H. G. WALKER.

Stearns Co., Minn., Dec. 7, 1899.

Two Young Laying Queens in Hive.

Has anyone ever found two young, laying queens in one hive? I found two such in one hive, and they had been there long enough to have eggs and hatching brood in the hive. The hive had 14 frames, and the queens were settled in the opposite ends of the hive. I know they were both young queens, because the old one was clipt, and there was plenty of evidence that she had been superseded.

I started in with 43 colonies, spring count, and got 700 pounds of comb honey, which I sold at 12½ cents, and could have sold 10 times as much. I also increast to 58 colonies, all in splendid condition for winter. I winter bees on the summer stands. I lost eight colonies last winter, three being queenless, and the balance from bad feed (honey-dew). By the way, it looks as if the "bug-juice" theory is getting a black eye. I never could believe in that theory. It certainly could not be the natural product of the body, and, if not, then they must gather it from some source like bees do.

I am nearly 67 years old, and it won't be long until I will have to give up my bees, and none of my family can take my place with them. R. R. STOKESBERRY.

Vermillion Co., Ind., Dec. 12, 1899.

TO MAKE BROILERS GROW
feed them on **Green Cut Bone.** It is the greatest **flesh forming food** known. Fed in combination with freshly cut clover **it produces both growth and that fine flavor** so much sought by epicures. **Quick growth, large size and fine flavor mean good prices.**

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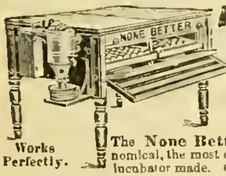
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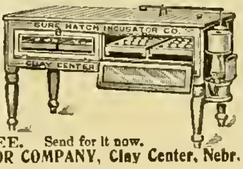

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made by a new sheeting process of my own, which produces a clear, transparent and pliable foundation, that retains the smell and color of wax.

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GUS. DITTMER, Augusta, Wis.
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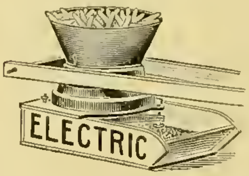
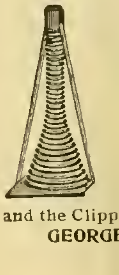


WE PRESENT herewith a cut of the Electric Sweep Feed-Mill which is manufactured by the Electric Wheel Co., of Quincy, Ill. This Mill, introduced this season for the first time, is the direct result of repeated demands made upon the manufacturers by the many farmers all over the country who are using other Electric goods, and who, finding those so entirely satisfactory, urged the manufacture of a mill also. The "Electric" embodies in its plan and construction all the latest principles, modern, economical grinding of feed for stock. It is without gears of any kind and does not absorb or waste any power by that method. It is equipt with a double set of brakes, which effectually break up and reduce the ear-corn before passing it on to the burrs. The burrs are made of specially hardened white metal, smooth and sharp, and capable of long-continued service. The mill is easily adjusted to grind coarse or fine, and besides grinding ear-corn, will also grind all small grains singly or mixt. For very fine work an extra set of burrs are provided. Write the Electric Wheel Company for booklet on Feed Grinders, and say you saw their advertisement in the American Bee Journal.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The MONETTE Queen-Clipping Device is a fine thing for use in catching and clipping Queens' wings. We mail it for 25 cents; or will send it FREE as a premium for sending us ONE NEW subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,

GEORGE W. YORK & COMPANY,
118 Michigan St., Chicago, Ill.

Convention Notices.

New York.—The annual meeting of the New York State Association of Bee-Keepers' Societies will be held in the parlors of the Kirkwood, at Geneva, N. Y., Jan. 10, 1900, at 11 o'clock a.m. All bee-keepers' societies in the State are hereby notified and requested to send delegates. An urgent invitation to attend is also extended to everybody interested in apiculture.
Chapinville, N. Y. W. F. Marks, Pres.

N. E. Ohio, N. W. Pa. The Northeastern Ohio and N. W. Pennsylvania Bee-Keepers' Association will hold their 19th annual convention at Andover, Ohio, in Chapman's Hall, Jan. 17 and 18, 1900. Boarding rates of $1.00 per day have been secured for those attending the convention. All bee-keepers invited. Send to the Secretary for programs.
Franklin, Pa. Ed Jolley, Sec.

California.—The tenth annual convention of the California State Bee-Keepers' Association will be held in the Chamber of Commerce, at Los Angeles, Feb. 21 and 22, 1900. It will be called to order at 1:30 p.m., Feb. 21. At this time the railroads will sell round-trip tickets to Los Angeles and return for one and one-third fare, on account of the Industrial, Mining, and Citrus Exposition, which will be held in Los Angeles. Tickets good for 10 days. Let every bee-keeper bring some hive, tool or experience that he has found valuable, and we will have a good convention. J. F. McIntyre, Sec.
Sespe, Calif.

Minnesota.—The Southern Minnesota Bee-Keepers' Association will meet in Winona, Jan. 23 and 24, 1900. The program will be as follows: Opening address, by Pres. E. B. Huffman; "Best Strain of Bees for this Locality," by John Turnbull; "Bee-Pasturage," by Peter Oech; "Managing Swarming," S. W. Judge; "Best Size of Hives," Wm. Berthe; "Production of Comb Honey," Frank Yahnke; "Extracted Honey," E. C. Cornwall; "Tall Sections vs. the Square," W. K. Bates; "Marketing Honey," Fred Oech; "Rearing Queens," C. A. Gile; "Cause of Loss of Bees in 1898 and 1899," J. A. Gates; "Bee-Supplies," W. H. Bright; "Lady Bee-Keepers," Mrs. P. Dickson; "Wintering Bees," C. Theilmann.
Homer, Minn. E. B. Huffman, Pres.

Wisconsin.—There will be a joint convention of all Wisconsin bee-keepers' societies at the 16th annual meeting of the State Bee-Keepers' Association, Feb. 7 and 8, 1900, in the State Capitol, at Madison, Wis. Many prominent bee-keepers will be there and take part, among them: Jennie Towle, of Clarke Co.; Miss Ada Pickard, of Richland Co., who alone in 1898 had 16,000 pounds of honey from 100 colonies of bees; George W. York, editor of the American Bee Journal, will deliver an address on "Honey, from the Hive to the Table;" Herbert Clute will show the advantages of Clark County for bee-keeping; "Dots by the Wayside," by J. Hoffman; "The Section-Box for Wisconsin Honey," by J. J. Ochsner; the State Inspector of Apiaries will report, and there will be a lively debate on "Spring Management of Bees," by the Vice-President and Treasurer of the State Association. The free-to-all question-box and answers will be a prominent feature, and valuable. There will be a big display of supplies of all kinds, several new and valuable. The American Biscuit Co. use tons of honey in their bakings, and will have a full line of such bakings there on exhibit.

Excursion rates of a fare and one-third for the round-trip, for railroad tickets purchast in the State, for over 50 cents each. Be sure to bring a certificate of each ticket purchast so it can be signed Feb. 8, in Madison, and entitle the holder to a third fare return.

The State Horticultural and State Cheese-makers' Associations will meet on the same date in the Capitol.

Don't forget the date—Feb. 7 and 8. It will pay you to attend. N. E. France, Sec.
Platteville, Wis.

Bee-Keepers' Photograph.—We have now on hand a limited number of excellent photographs of prominent bee-keepers—a number of pictures on one card. The likeness of 49 of them are shown on one of the photographs, and 121 on the other. We will send them, postpaid, for 30 cts. a card, mailing from the 121 kind first; then after they are all gone, we will send the 49 kind. So those who order first will get the most "faces" for their money. Send orders to the Bee Journal office.

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Bees and Honey, or Management of an Apiary for Pleasure and Profit, by Thomas G. Newman.—It is nicely illustrated, contains 160 pages, beautifully printed in the highest style of the art, and bound in cloth, gold-lettered. Price, in cloth, 75 cents; in paper, 50 cents.

Langstroth on the Honey-Bee, revised by Dadant.—This classic in bee-culture has been entirely re-written, and is fully illustrated. It treats of everything relating to bees and bee-keeping. No apiarian library is complete without this standard work by Rev. L. L. Langstroth—the Father of American Bee-Culture. It has 520 pages, bound in cloth. Price, $1.25.

Bee-Keepers' Guide, or Manual of the Apiary, by Prof. A. J. Cook, of the Michigan Agricultural College.—This book is not only instructive and helpful as a guide in bee-keeping, but is interesting and thoroly practical and scientific. It contains a full delineation of the anatomy and physiology of bees. 460 pages, bound in cloth and fully illustrated. Price, $1.25.

Scientific Queen-Rearing, as Practically Applied, by G. M. Doolittle.—A method by which the very best of queen-bees are reared in perfect accord with Nature's way. Bound in cloth and illustrated. Price, $1.00.

A B C of Bee-Culture, by A. I. Root.—A cyclopædia of 400 pages, describing everything pertaining to the care of the honey-bees. Contains 300 engravings. It was written especially for beginners. Bound in cloth. Price, $1.20.

Advanced Bee-Culture, Its Methods and Management, by W. Z. Hutchinson.—The author of this work is a practical and entertaining writer. You should read his book; 90 pages, bound in paper, and illustrated. Price, 50 cents.

Rational Bee-Keeping, by Dr. John Dzierzon.—This is a translation of his latest German book on bee-culture. It has 350 pages, bound in paper covers, $1.00.

Bienen-Kultur, by Thos. G Newman.—This is a German translation of the principal portion of the book called "Bees and Honey." 100-page pamphlet. Price, 25 cents.

Bienenzucht und Honiggewinnung, nach der neuesten methode (German) by J. F. Eggers.—This book gives the latest and most approved methods of bee-keeping in an easy, comprehensive style, with illustrations to suit the subject. 50 pages, board cover. Price, 50 cents.

Bee-Keeping for Beginners, by Dr. J. P. H. Brown, of Georgia.—A practical and condenst treatise on the honey-bee, giving the best modes of management in order to secure the most profit. 110 pages, bound in paper. Price, 50 cts.

Bee-Keeping for Profit, by Dr. G. L. Tinker.—Revised and enlarged. It details the author's "new system, or how to get the largest yields of comb or extracted honey." 80 pages, illustrated. Price, 25 cents.

Apiary Register, by Thomas G. Newman.—Devotes two pages to a colony. Leather binding. Price, for 50 colonies, $1.00; for 100 colonies, $1.25.

Dr. Howard's Book on Foul Brood.—Gives the McEvoy Treatment and reviews the experiments of others. Price, 25 cents.

Winter Problem in Bee-Keeping, by G. R. Pierce.—Result of 25 years' experience. 30 cts.

Foul Brood Treatment, by Prof. F. R. Cheshire.—Its Cause and Prevention. Price, 10 cts.

Foul Brood, by A. R. Kohnke.—Origin, Development and Cure. Price, 10 cents.

Capons and Caponizing, by Dr. Sawyer, Fanny Field, and others.—Illustrated. All about caponizing fowls, and thus how to make the most money in poultry-raising. 64 pages. Price, 20c.

Our Poultry Doctor, or Health in the Poultry Yard and How to Cure Sick Fowls, by Fanny Field.—Everything about Poultry Diseases and their Cure. 64 pages. Price, 20 cents.

Poultry for Market and Poultry for Profit, by Fanny Field.—Tells everything about Poultry Business. 64 pages. Price, 20 cents.

York's Honey Almanac is a neat little 24-page pamphlet especially gotten up with a view to creating a demand for honey. A very effective helper in working up a home market for honey. Prices: A sample for a stamp; 25 copies for 40c; 50 for 60c; 100 for $1.00; 250 for $2.25; 500 for $4.00. For 25 cents extra we will print your name and address on the front page, when ordering 100 or more copies at these prices.

HONEY AND BEESWAX

MARKET QUOTATIONS.

Chicago, Dec. 12.—We quote best white comb at 15c; an occasional small lot of fancy sells at 16c; off grades of white, 12@14c; ambers, 10@12c. Extracted, 8@9c for fancy white; 7@8c for amber; 6@7c for dark grades.

Receipts are larger and the demand is not as good as it has been; most of the retailers have laid in a supply to carry them over the Christmas time. R. A. Burnett & Co.

Cincinnati, Dec. 7.—There is a good demand for all kinds of extracted honey. White clover and basswood sell at 8@8½c; amber and Southern, 6@7c, according to quality and package. Fancy comb honey in no-drip shipping-cases sells at 15@16c; darker grades hard to sell at any price. Beeswax, 26c. C. H. W. Weber,
Successor to Chas. F. Muth & Son and A. Muth

Kansas City, Dec. 9.—We quote No. 1 white comb, 13½@14c; No. 2, 13@13½c; No. 1 amber, 13@13½c; No. 2, 12@13c. Extracted, white, 7½@8c; amber, 7@7½c; dark, 5½@6c. Beeswax, 20@22c. C. C. Clemons & Co.

New York Dec. 10.—Demand is very good for all grades of comb honey. Receipts are somewhat light and not up to former years. We quote:

Fancy white, 15 cents; No. 1, white, 13@14c; amber, 11@12c; and buckwheat, 9@11c., as to quality. Extracted remains firm at following prices: California white, 8½c; light amber, 8c; white clover and basswood, 8c; amber, 7½c. Very little trade for extracted buckwheat as yet. Southern, fancy, 7½c per pound; other grades, as to quality, from 70c to 75c gallon. Beeswax quiet at 26@27c. Hildreth & Segelken.

San Francisco, Dec. 20.—White comb, 11½@12½c; amber, 8@10c. Extracted, white, 7½@8c. light amber, 7@7½c; amber, 5@5½c; Beeswax, 26@27c.

There is no chance for extensive trading in this commodity at present, supplies having been reduced to small proportions. A sailing vessel clearing the past week for England carried 125 cases extracted. Prospects for coming season's yield are considered very good for this early date.

Cleveland, Dec. 1.—Fancy white, 16@17c; No. 1 white, 15@16c; No. 1 amber, 13@14c; No. 2 amber, 12@13c; buckwheat, 9@10c. White extracted, 8@9c. A. B. Williams & Co.

Boston, Dec. 8.—We quote as follows: Fancy white, 16c; A No. 1, 15c; No. 1, 13@14c; buckwheat will not sell in this city. Extracted, light amber, 7@8c.

There is very little now to report in the line of our honey market. The retail trade are loath to pay the higher prices and are buying in a very small way, still the demand is fully equal to the supply. Blake, Scott & Lee.

Albany, Dec. 10.—We quote: Fancy white comb, 15c; No. 1 white, 13@14c; mixt, 11@13c; buckwheat, 10@11c. Extracted, white, 8@9c; mixt, 6½@7c; dark, 6. Beeswax, 26@28c.
MacDougal & Co.
Successors to Chas. McCulloch & Co.

Omaha, Dec. 11.—The November trade has up to the present not been as good as was expected, and shows a falling off from October. It seems that the somewhat higher prices this fall are affecting the consumptive demand to some extent, still the warm weather yet prevailing in this part of the country may also be partly responsible for it. While trade has been light, prices have been well maintained, nobody being burdened with stock to such an amount as to become oppressive.

Fancy white still going at 14@14½c, and light amber 1 cent less. Extracted, white, 8@8½c.
Peycke Bros.

Detroit, Dec. 11.—Fancy white, 15@16c; No. 1, white, 14@15c; dark grades, 10@12c. Demand good and supply light. No extracted in market. White would sell for 8@8½c. Beeswax, 23@24c.
M. H. Hunt & Son.

WANTED.—Extracted honey all kinds; mail sample and price expected delivered at Cincinnati. I pay spot cash on delivery.
C. H. W. Weber,
Successor to Chas. Muth & Son and A. Muth.
40Atf 2146–48 Central Ave., Cincinnati, O.

Wanted! Your HONEY
We will buy it, no matter where you are. Address, giving description and price,
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Latest Improvements. Perfect Goods.
Very Reasonable Prices.

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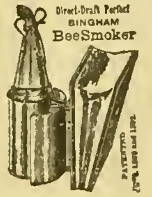

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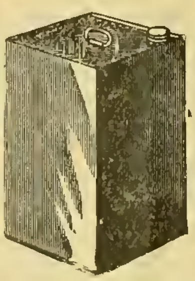

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AMERICAN BEE JOURNAL.

ESTABLISHT IN 1861 OLDEST BEE-PAPER IN AMERICA

DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS.

40th YEAR. CHICAGO, ILL., JANUARY 11, 1900. No. 2.

CONTRIBUTED ARTICLES

Keeping Bees as in the Old Country—Ventilating Langstroth Hives.

BY JOHN R. SCHMIDT.

THIS article is the result of a stroll with my camera out among some of the bee-keepers of Cincinnati. The desire generally strikes me about the time of the year when our honey season is over. No special route is laid out, but just to go out and find some one who keeps bees, and to learn his ideas of bee-keeping, and what result was obtained under his management. Most bee-keepers generally have some hobby, or special way of managing their bees, which they think is the best and only correct way of getting a good crop of honey. No doubt many of these ideas are good, for just such ideas finding their way into our bee-literature are combined either wholly or partly by some bright bee-keepers, and as a result we have as to-day the advanced methods of modern bee-keeping.

Two of these ideas, which I am about to describe here, attracted my attention more than usual, so I promptly adjusted my camera and "fired away."

One pleasant Saturday afternoon, being inclined to take one of these trips, I packt my camera, and as it was only a few hours until dark, my trip necessarily had to be a short one, so I decided to call upon Mr. C. H. W. Weber. As Mr. Weber carries on quite an extensive business it is necessary for him to be located in the city—yes, "right in it"—that expresses it exactly, and he is "in it" in more ways than one, for he also has his apiary of 32 colonies in the city on the roof of his store.

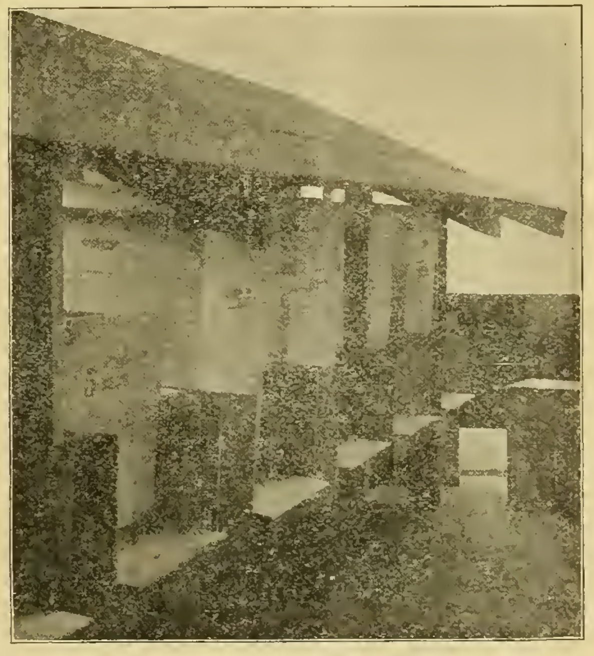
After talking bees for some time, Mr. Weber said: "Come up, and I will show you my bees now"—having seen them a few weeks before. So we started to climb stairs, and after climbing three flights we turned to our right, and there we could view that "city roof-apiary," which has been mentioned so often in our bee-literature, as it was formerly owned by the late Chas. F. Muth.

After keeping bees on this roof for many years with perfect success, Mr. Weber says he is going to arrange them all differently, and has a plan which will protect his bees from the extremes of heat and cold, to which they are subject.

Taking me to one side of the apiary, he showed me a row of hives which he has just completed in arranging according to his plan (see photograph). This row is composed of regular dovetailed hives about five inches apart. They are securely incased, excepting the front, with ⅞-inch boards up to the top of the brood-chambers, a space of about five inches being left all around the hives, and this space is tightly packt with chaff or planer-shavings. After they are packt, boards are fitted in the space between the hives even with the top of the brood-chambers, to keep the packing dry, and make them all rain and snow proof. So far this is nothing more than chaff hives, only on a different plan, but you will notice in the photograph that there is an additional roof over the hives, and is also boarded up in the rear.

The top part of the rear is hinged, and may be raised to allow the sun to shine on the top of the hives in early springtime. During winter, when the cold, unbroken western winds sweep over the house-tops, this arrangement is closed down securely, and the hives are thoroly protected. Weak colonies with plenty of stores will winter just as well as strong ones, and, in fact, every hive in the row will be of uniform temperature, as the heat radiates from one to another thru the chaff between the brood-chambers. The additional roof over the hives is to protect them during the middle of hot summer days.

After explaining the advantages of such an arrangement, Mr. Weber said, in his good-natured German way, "That's the way they keep bees in the old country." (With emphasis on "that's"). I askt him, if he wouldn't have trouble with queens entering wrong hives, as they were all built and lookt exactly alike. He said that as he has only 32 colonies, he can easily know the exact condition of each



Portion of a Cincinnati Roof-Apiary.

colony at all times, and thereby replace any queen which begins to fail. This objection being overcome, I think the plan is worth considering by those who keep bees on roofs, or where chaff hives are considered the best to use.

VENTILATING LANGSTROTH HIVES.

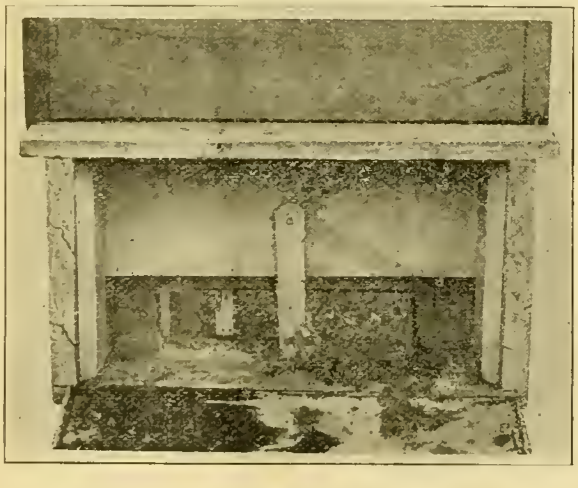
The proper ventilation of regular Langstroth hives with tight bottom-boards during the hot summer days is something which bee-keepers using this style of hive have thought of more or less. This is the way a Cincinnati bee-keeper does it—another idea caught on a different occasion. This also did not escape my camera, but it was a close call—cloudy day, 4 p.m., moving bees, quick exposure, and, as a result, trouble in the dark-room—understand, amateurs? Well, to get down to my subject.

You will notice that the front of the brood-chamber (see photograph) is made of two separate boards, the top one being permanent and coming down to within three inches of the bottom-board. The lower half is movable, and slides up and down just in front of the top one. The stick fastened to this movable board is used to regulate the hight of the entrance. When warm weather approaches, and the bees begin to hang out and loaf, this movable lower half is raised somewhat, and the stick acts as a prop, and holds it in place. If the bees still continue to hang out, it is raised still higher, until the desired amount of ventilation is obtained, which seldom requires the full hight. The entrance can be completely closed by turning the stick slightly, which allows the lower half to come down and rest on the bottom-board.

This arrangement has been used for a number of years, and the bee-keeper says it gives complete satisfaction, as it ventilates the brood-chamber without allowing the heat to escape from the supers, which is of such vital importance in the production of comb honey.

One objection which may arise from using this method of ventilation is this: If it is used in a locality where the temperature is subject to sudden changes, the bee-keeper may be troubled somewhat with chilled brood if the entrance is left open the full hight during a cool night. But there are bee-keepers who say "useless consumers" are reared at this time of the year, when ventilation is needed the most, and, even if the brood is chilled, nothing would be lost. Well, I am not going to start an argument by saying there is no such thing as a "useless consumer," as applied to the worker-bee, but I will say I have often noticed that the hives containing queens which rear the most of these so-called "useless consumers" always come thru the winter strong in bees, and have more honey to their credit at the end of the season.

But coming back to our subject again, we should, nevertheless (even if these bees are considered useless), choose the lesser of the two evils caused by ventilation, and undoubtedly the greater of the two is upward ventilation thru the supers, which method often leaves us with little or no surplus at all. Bees need a uniform heat in the supers for the production of fancy comb honey, and it is impossible to get such an article with a draft passing thru or directly beneath the supers—a fact which is being acknowledged by more and more bee-keepers every year.



Simple Device for Ventilating Hives.

One more thing I would like to mention before closing, and that is, I noticed that this entrance saves the bees lots of time, for the incoming bees would alight on the ends of the frames and then pass quickly between them, while the bees in hives having the ordinary entrance spent several seconds before reaching the combs.

Hamilton Co., Ohio.

Marketing Extracted Honey—Making It a Staple.

BY R. C. AIKIN.

PERHAPS the readers of the bee-papers will think me cranky on the marketing question—I have written so much on this topic. A crank is a very useful thing.

> "Oh, we are the cranks to turn the earth
> Into the ways of peace and mirth;
> Happy side up, sunny side up—
> We will ever turn till it's right side up."

That the marketing of extracted honey is yet in its infancy is true, at least as a table sweet. Recently a buyer who handles much honey told me the great bulk of the extracted honey they handled went to manufacturers. If this is true—and I believe it is—is there not a big field for operation in placing extracted honey on the tables of the masses? We have but to recall that when we eat at restaurants, and such places, we do not find honey on the table, and rarely do we find it on the tables of private families outside of bee-keepers. Honey is indeed a luxury, and *extracted honey more so than comb.*

Must we acknowledge that there is by all odds more of comb honey eaten as a sweet than of extracted? It surely looks that way. Mr. E. R. Root, in a paper before the Philadelphia convention, *estimated* that the annual product of comb honey was perhaps 50,000,000 pounds, and that of extracted probably twice as much, or 100,000,000. I also glean from the bee-papers of late, that there are single firms that consume from 200,000 to 300,000 pounds. If such large quantities be used by single manufactories, surely the great number of firms consuming in baking, and the many other uses to which honey is put in the arts, there must be but a small portion of the 100,000,000 pounds that gets to the table as a syrup. Knowing that the great bulk of comb honey is used on the *table*, and yet it is a very *rare* article among the masses, we must conclude that extracted is comparatively unknown to the great bulk of consumers of sweets.

I began here about eight years ago to sell extracted honey, and a few hundred pounds was all that was sold in the community, but now I can sell almost as many thousands as I then did of hundreds. My local trade has increast year by year, until now I can sell almost a carload a year to a village of less than 2,000, together with the surrounding farm community. Even at this rate there are many families who do not use honey, and many others that use it only as a luxury now and then.

That there is a very large percent—yes, the great majority—of our population who do not use honey, is a fact. Those people who do not would use it if it were as *accessible* as other sweets, and compared favorably in price. I make this statement without fear of successful contradiction. I have proven it right here, and others have done the same thing in other localities.

WHY IS HONEY NOT USED?

A business man who is always out of certain goods can not expect a good trade in that line. Honey is *not* kept by even the majority of stores, either comb or extracted, *regularly* and at prices to compare with other sweets of the same grade, while the other sweets are in *all* stores. How long would a store do business if sugar and syrup were not kept in stock, except in cities large enough to run with a limited line in any one store—the various stores making a specialty of certain goods? A common country or village store, and as well the greater part of city stores, could not hold their customers if they did not keep staple sweets. Honey must be kept in stock and offered *regularly* as other goods to be regularly used. These are self-evident truths. Any one who attempts to make a staple sweet of honey, and not keep it in stock, will surely fail. Failure along this line is common—very common—with grocers as well as with bee-keepers, in working up a honey-trade.

Another reason why people do not buy extracted honey is because it is too expensive—there is too much expense between production and consumption. From here to Chicago the present rate on extracted honey is 97 cents per hundred pounds. Suppose I ship 10 cases of honey to any dealer there, and charge him 6 cents f. o. b. here, he pays

97 cents per 100 *gross* weight, which is just about even $13 on the lot. A lot of 1,200 pounds at 6 cents is $72; plus $13 freight, and the honey costs on the car at Chicago 7½ cents per pound.

If the buyer in the city puts his money into the honey he will not want to sell again for a bit less than 10 percent advance, perhaps usually not less than 20 percent. If he were selling to manufacturers in original packages and in large lots the margin may be quite small; but if it goes for table use, and he sells in the original package to go into families by the 60-pound can, there can not be less than 30 percent added—the wholesale dealer 10, and the retailer 20. Cost of honey—10 cases—on car in Chicago, $85; plus 30 percent for dealers, total $110.50; or about 9 1/5 cents per pound it costs the consumer.

To repack this honey would cost quite a little, but I scarcely know how much to estimate, much depending upon the equipment for doing the work; we will drop that item and see about cost of packages. The very cheapest tin package will cost at least one cent per pound, while glass packages cost from 3 to 4 cents per pound. This makes the cost of the honey about an average of 12½ cents per pound when it gets to the consumer.

Extracted honey shipt to market in 60-pound cans and repackt for retail trade costs the consumer at least 12½ cents, many times considerably over this—12½ is very conservative. Now buy 6 cents worth of granulated sugar and make a syrup by adding a little water, then place this beside 12 cents worth of honey and see how many customers will buy the sugar rather than the honey. Sugar competes with extracted honey, and there is no use in ignoring the fact.

THE REMEDY IN THE MATTER.

The *producer* must pack his honey *in retail packages* and case it in some way that it may be handled cheaply. One great trouble with apiarists themselves is, first putting up honey in barrels or 60-pound cans, then later repacking it for retail, melting when candied, and also taking back that which candies in stores. All this is piling up cost on the consumer, or reducing the profits of the producer. The producer of extracted honey needs a storage-tank between the extractor and the marketing-package in all cases. After settling, draw from the tank into retail packages, and let it candy as quickly as it will, then sell in the candied condition.

Consumers will buy it candied, and liquefy for themselves, and many want it candied when spread on their bread. People buy new things because they are always wanting "something new," and if 'tis new to buy candied honey they will do it and soon learn to melt it. I sell my extracted honey in lard-pails nicely painted and stenciled—that is, I used to—now our pails are lithographt. This is the cheapest package, and nice, and with the honey candied there is no drip or leak. In my home market the prices are very close to that of granulated sugar, the honey being sold when candied. *I do not put liquid honey in stores*, and my honey sells right along, and is fast becoming a staple.

Larimer Co., Colo.

The Season of 1899—Other Matters.

BY G. W. DEMAREE.

THE past season has been so disappointing to the bee-interest in these parts that one must make a distinction between the "science" and the "practical" in bee-literature and bee-culture in order to feel enough interest in the matter to talk or write on bees.

Last spring, after the Arctic blast of February, the white clover crop showed up more than an average prospect, and bloomed in season in great profusion, and the bees made a splendid start in the section-cases as well as in the extracting-supers; but a wave of heat in the absence of moisture dried up the clover bloom right in the midst of the beginning harvest. And the result was few finisht sections, and a great lot partly filled or not toucht.

In the past ten years the little white aster—"last rose of summer"—has gained a foothold here in waste places and on old pasture-lands, and the bees store a surplus in the late autumn, if the weather is propitious.

For the last few years I have adopted the plan of leaving the fall surplus on the hives during the winter months, and extract what the bees do not need just before the white honey harvest begins to show a surplus, the following season. In our climate the honey in sealed combs does not granulate in quantity to hinder the work of extracting in warm weather. This plan carried out in a climate that will permit extracting of carried-over sealed combs insures strictly *clast* honey. The dark honey—fall and spring—is brought together by this management, and the white clover surplus of June and July is strictly pure, after its class. My dark honey is sold as "fall and spring honey" at a reduced price, and all of it is taken by the home trade. The past fall was even too dry and hot for the drouth-proof white aster, and the flow from this source was below the average.

GETTING UNFINISHT SECTIONS CLEANED.

Bee-keepers are still asking how to get unfinisht sections emptied and cleaned by the bees. With me it is only a matter of work and proper management. Prepare the section-cases by clipping the capping from any sections that may have been partly sealed; place a bee-escape board on the hive, or hives, that are selected to do the cleaning; remove the escape from its place, and this will leave a passway for the bees to enter the section-case of unfinisht sections, while the board practically disconnects the case from the hive below. If the work is done just after the honey-flow has past, it will work like a charm.

TIME BETWEEN FIRST AND SECOND SWARMS.

I was of the impression that the question as to the time that intervenes between the first, or prime swarm, and the first after-swarm, under normal conditions, was settled long ago, but it seems that it doesn't stay settled. In the first place, it should be remembered that changeable weather, cloudy, rain-storms, etc., and in the rare cases when bees under sudden excitement swarm before any preparation has begun, does not enter into the question as to the habit of bees under normal conditions in respect of swarming. According to my experience of a quarter of a century in the apiary, the time between the first and second swarms is about ten days.

No cause, or causes, to interfere with regularity; if you open the hive just after the first swarm issues, you will find at least one queen-cell sealed over, indicating that the oldest of the royal developing family is about eight days old, counting from the time the egg was laid, and in eight more days she will leave her cell, and in about two more days she will be strong enough to bring on the excitement resulting in the first after-swarm.

CLIPPING THE WINGS OF QUEENS.

It seems to be lookt upon by many bee-keepers as a manipulation difficult to perform. To me it is a very easy and simple operation. Find the frame that contains the queen, adjust it in your revolving frame-holder, lift the queen from the comb by clasping her wings between the thumb and forefinger of the right hand; now place her legs between the thumb and forefinger of the left hand, and with the scissors clip off about half of one pair of her wings, and let her run back on the comb. Restore the frame in the place it was taken from, and close up the hive carefully, so as to excite the bees as little as possible.

QUEENS FROM ADVANCED LARVÆ.

There are exceptions to all rules, perhaps, and it is not safe to say that queens reared from advanced larvæ are always inferior. I once had a queen hatch in just eight days from the time the cell was started. The case being an exceptional one, I kept a close watch over this queen, and she showed up as good as the average of the best queens in the apiary. Some of the best queens I ever owned were hatcht in ten days after the cells were started.

Shelby Co., Ky.

No. 4.—An Apiary—How to Get the Most Out of It in Beeswax, Queens, Etc.

BY "OLD GRIMES."

ALTHO it is lookt upon as an incidental, beeswax is a very important product, and in the markets of the world it has a more standard value than honey. There is no substitute that can take the place of beeswax in the many uses to which it is put in the industrial arts, and when we have a pound of wax we know there is more gold in it to the square inch than there is in an equal amount of honey.

Bee-keeping is an industry full of little details, and the neglect of them will have an effect upon the earnings of the apiary, and the detail that seems to receive a little more than its share of neglect is the saving of wax. Old Grimes, in his early days, lived near an honest German bee-keeper, and he was always saving every little bit of comb, brace-combs, little spurs from the covers, etc., and all thrown into a box kept in a convenient place for the purpose. It is said that example is more lasting than counsel, and in this case it seems to be verified, for I have faithfully followed his example, while if he had given it to me in the form of advice, I would have forgotten it the next day.

Altho some people at the present day put their old combs into a sack, the sack into a washboiler, and the boiler upon the kitchen stove, and boil, the majority of them resort to more improved methods.

The solar wax-extractor seems to be in the line of progression, and improvements are reported from Florida and Colorado. Further improvements may be expected, until there will be nothing for boilers or presses to do.

There is at present a revival of the press method. It is right and proper to make improvements, but the press was in use in the Grimes apiary 15 years ago. If it will get out another pellet of wax it is well to use sunshine, water and pressure; the pellets make ounces, the ounces pounds, pounds dollars, and dollars clothing and food for our person.

The Grimes family are pleased to observe that the old steam-stove wax-extractor is relegated to the relic heap, for of all slow-working vexations, and utterly useless things for an extensive bee-keeper, it was the worst.

To get the most wax from an apiary, it pays occasionally to scrape the frames, honey-boards, and the inside of the hives, and, when old frames are broken up, to be sure they make fine kindling wood, but before using them for that purpose they should be boiled—there is much wax sticking to old frames even after they are scraped seemingly clean.

And here one of the boys at my elbow irreverently remarks that I had better advise bee-keepers to boil all the dead bees. That might be a good plan for certain specific purposes, but as we have workt the dear little bee for all her dear life is worth, it is time we should exclaim, "Requiescat in pace!"

To get the most out of an apiary in working it for queens needs special talents. If a person is a proficient honey-producer it is no sign that he could succeed in queen-rearing. The qualifications for a queen-breeder can be summed up briefly in the following: Order, patience, neatness, application.

We were told some months ago, in one of our bee-papers, how a certain honey-producer, when he wanted to open a hive, kickt the top off, and when extracting the honey allowed the bees by the million to drown in it. In order for such a fellow to succeed in queen-rearing, there would have to be a grand reformation of his feet, his hands, and his head, and probably the latter would be a hopeless task if he is over 25 years of age.

The economical home-rule applied in the Grimes apiary is to secure good queen-cells, and eventually queens, thru the swarming season when it requires but little order, patience, etc. At other times, queens are purchast from well-known, reliable dealers, and it is a waste of honey to buy cheap queens, or to patronize a queen-breeder whose reputation is not establisht.

Judging of the scarcity of advertisements in that line, the sale of colonies of bees is not a very extensive business. In trying to get the most out of an apiary by this means, Old Grimes has had some experience. The desire to buy was not equal to the anxiety to sell, and the anxiety of the buyer to bear the price down created a desire to hold, and after quite a little advertising only a few colonies were sold.

Probably the best method of selling colonies for profit was practiced a few years ago by Mrs. Lizzie Cotton, of Maine. Her plan was to sell a fortune-making hive with the bees, and all for the modest sum of $20! As she catered mostly to a class commonly known as "suckers," the field was in due time supplied, and Lizzie went out of business. There is probably a new crop of "suckers" by this time, but when one is tempted to work the field it is found that the American Bee Journal has such a watchful eye upon the verdant ones that it is doubtful if the scheme would work. The best time to sell bees is upon special occasions, such as stocking a new field, or replenishing a country after a great loss.

The shipping and sale of nuclei from the South to the North ought to be workt up into a good, paying business.

If the bee-keeper desires to sell bees and at the same time hold enough to make the honey-production profitable, he should never sell bees to his nearest neighbor, for every colony the neighbor owns takes just so much from your apiary. The bee-keeper who wishes to make the most out of his apiary should have no rivals within 8 or 10 miles.

CONVENTION PROCEEDINGS

Report of the Chicago Bee-Keepers' Convention.

BY HERMAN F. MOORE.

[Continued from page 6.]

Next on the program was a paper by Mr. H. M. Arnd, of Dupage Co., Ill., on

Marketing Honey and Creating a Demand for It.

Marketing honey is one of the most essential parts of bee-keeping. A failure in the honey crop means the loss of part of your year's labor, but if you sell your product at a loss your entire year's labor is in vain.

I understand that this year's honey-production is less than one-half, but of a superior quality, and yet some bee-keepers have sold their product at the 1897 prices, when there seemed to be an overproduction, times were hard, and all food could be bought at very low prices. Whereas, this year, all kinds of food products—in fact everything, has advanced greatly, and honey should doubly have a big advance, on account of scarcity, quality, and rise in values of goods in general. And yet, these very same men complain that there is no money in honey!

From my short experience I find that it is not difficult to sell A No. 1 honey direct to the consumer at a good price, if you go at it in the right way. A man should be neatly but plainly drest, as his appearance goes far in impressing the purchaser that he has the genuine article from his own apiary. He must be "up in his business," always willing and ready to answer the hundred and one questions that are apt to be askt. I do not know of anything that will get a person quicker, and more interested, than the bee-subject; nearly all seem to know that the science is full of the miraculous, and are not at all backward in asking all sorts of questions, some of which would stump Dr. Miller or Mr. Doolittle to answer. If you once get people interested you will have no trouble in making sales. Do not hesitate to answer questions, even if at times you have to guess at the answer.

The public in general believes, and some of them think they know, that an imitation comb honey is manufactured, and as I make extracted honey a specialty, I do not argue the point, but sell them the extracted with the understanding that if it is not pure and satisfactory, they can either exchange or return it at my expense. I have had only one lot returned, and that was not even opened, the lady of the house contending that her husband had no right to make the purchase without her consent—that she was the "boss," and I think she was, because the honey came back.

You must send out only superior goods. If you have an inferior article, either sell it to some of your neighbors, or to bakers, at a discount, and tell them that it is not first-class; feed it back to the bees in the fall, or put it in the vinegar-barrel, but never put it on the market as fancy honey.

You must study your trade, and know when to approach certain customers. Some you can sell to at any time of the year, whereas the indifferent honey-purchaser can only be reacht successfully after a pay-day, or when the thermometer is down to zero.

If your competitor has good goods, always have a good word for him.

Most of my product goes to Chicago, and by a careful study of my customers, giving them just what they want, and when they want it, I am able to get magnificent prices.

I always sell direct to the consumer, and get all that there is in it. I sell my goods on their own merits, not on the defects of my competitors'. I do not try to compete with South Water street, or the corner grocery, but sell as independently as if I were a "trust." I do most of my business in the down-town district, as I have a large acquaintance there, and can meet them personally. I usually go to such places where I am either known, or I might know their forty-second cousin's aunt; if I am not acquainted I will tell them that I know their relative, and explain my business. I usually have a few sample bottles of honey, and some of my circulars, and place them where I think they will be most effective. If I do not then make a sale and get some encouragement, I will call again later. Politeness, appearance, and modesty do a great deal in getting a proper interview, which is one-half in getting them interested and making a new customer, who, with proper treatment, will be instrumental in getting some of his friends.

I put up my product in one-gallon and five-gallon tin cans, which I deliver by wagon-express direct to their residences. I also use one-quart and two-quart glass jars, which I deliver direct to their place of business if centrally located. A short time after shipment to a new customer I call on him to find out if everything is satisfactory. I make it a point always to give full-size cans, and filled up to the brim; 12 pounds of honey is considered a gallon, but my customers get nearly 13 pounds. You will find it pays to be liberal with your customers. Always rectify any mistakes, even if you lose at the time, for it will pay in the end, as a reputation for square dealing is worth money to any man.

To create a demand for honey at high prices, you should not sell anything but first-class goods, as such invariably bring new orders. I have as a customer a family that has bought of me $40 worth of honey within the last two years, and yet I have never seen one of them. Nothing will advertise your goods more than the goods themselves.

The public must be educated as to the uses and benefits of pure honey; there is not one person in fifty but thinks that it is only a luxury of no particular value. If we only could get the people to read and believe our circulars and honey literature, and get the newspapers to print well-written and true articles on the bee, and on honey as a food, I have no doubt that the demand would increase tenfold in a year. I believe that nearly one-half of my customers have lately been convinced that it is not only a delicious but beneficial food.

We have this problem to solve: How can we get our brother bee-keepers to sell their crop for living prices, and at what it is worth, and thus not break down the honey market? In answer, I would suggest that they invest at least $2.00 per year for information—$1.00 for the best bee-paper, and the other dollar as dues to some good bee-keepers' association, where he could and would attend the meetings and get the much-needed information.

In these times of monopolies and trusts, when the rich are getting richer, and the poor poorer, we poor bee-keepers will find that the greatest problem for us to solve is, How can the pure-food law be enforced effectively, and drive out of business permanently those mixers of poisons, who for mere gain are not only robbing the public of their hard-earned money, but, more than that, are gradually undermining their constitutions and shortening their lives? If such laws could be enforced, it would greatly improve the demand for our goods, and we would have no trouble to market them at good prices. I believe that every one of us can assist in helping to crush this great wrong by joining the United States Bee-Keepers' Association, and swell its treasury to such an extent that it will enable them to fight the adulteration demons, and use their influence with Congress to put a stop to this great injustice to humanity.

H. M. ARND.

This topic was considered at great length, nearly every one present being personally interested. Many and diverse views were exprest on candied honey and its relation to a honey-trade.

The Hon. A. H. Jones, of Robinson, the newly appointed Illinois Pure Food Commissioner, was introduced to the convention. He made an interesting address, pledging himself to co-operate with all good citizens to prevent adulteration of foods. The bee-keepers congratulated themselves on the presence of Mr. Jones at their meeting, and his evident friendliness to their aims and objects.

Following Mr. Jones, Pres. York and Dr. Miller made a few well chosen remarks on the importance of the work to be undertaken by Mr. Jones, and pledging the hearty co-operation of bee-keepers.

Mr. Jones said that 16 States now have pure food laws. He askt the bee-keepers to aid him in enforcing the laws.

Prof. E. N. Eaton, of Chicago, an analytical chemist, read the following paper:

Honey as Food.

Honey has ever been regarded one of the good things in life. To the Hebrew fathers a land flowing with milk and honey was symbolic of peace and plenty. Thus they pictured their promist land. The ancient Greeks fed their fabled gods with nectar, even to-day generally considered synonymous with honey. Virgil wrote pastorals in its praise. The American African, always extravagant in language, can conceive of no sweeter name for his love than "My Honey." The black mamma lulls her pickaninnies to sleep with the same sweet refrain.

In English-speaking nations the newly-wedded celebrate their "honeymoon." By the way, that term has a derivation not commonly known. It was a custom of the Goths to celebrate the marriage relation by drinking diluted honey, sometimes called "hydromel," for one month or one moon's age hence the name "honeymoon." It was this drink, fermented I fear, which caused the death, thru suffocation, of the notorious vandal, "Attila."

In speaking of honey as food it will be necessary to name the three great classes of food material—the proteids (or nitrogenous foods), the carbohydrates, and the fats, both of the latter being carbonaceous foods. The nitrogenous foods are, in the main, flesh formers, while the carbohydrates and fats are fuel foods. Honey belongs to the sugar group, a large division of the carbohydrate family. All carbohydrates consist chemically of the elements carbon, hydrogen and oxygen, the latter two in the proportion to form water, that is, eight times as much oxygen as hydrogen.

Honey consists largely of the two sugars—dextrose and levulose—in equal molecular proportions. These sugars occur in Nature in fruits and vegetables. When coffee A sugar, or damp brown sugar, stands for some time it becomes changed into these same sugars. The same change in cane-sugar is brought about by action of diluted acids, neutral salts and ferments. These sugars, when obtained from cane or white sugar by any agency, are invariably formed in equal quantities, and when so existing are termed invert-sugar. Levulose is sweeter, and dextrose not nearly as sweet, as cane-sugar. Invert-sugar is perhaps a trifle less sweet than cane-sugar.

Cane-sugar is usually present in honey, and may exist in considerable quantity in unripened honey, or in the product obtained by feeding bees with that sugar.

Dextrin also occurs in honey in small and variable quantity. It belongs to the carbohydrates group, but is not a sugar. It forms an intermediate product between the sugars and the starches. Dextrin is more commonly known under the name of "British gum," and constitutes the adhesive on postage stamps. It also occurs in the crust on bread.

Formic acid is a constant component of honey. This acid is said to be the irritating agent in the sting of bees and other belligerent insects. Formic acid, like its relative, formic aldehyde, is an excellent antiseptic, but the statement that it exists in sufficient quantity in honey to act as a preservative or intestinal antiseptic, should be taken with a grain of allowance—perhaps two grains.

It will not do to leave the subject of the composition of honey without referring to the least prominent constituent from the standpoint of the scales, but the most important from the standpoint of the purse—the flavors carried from the flowers furnishing nectar. These flowers give to different honeys their individuality. They also add to its value as a delicacy. A solution of sugars without them, even in the proportion existing in honey, could no more justly be sold as honey than could a mixture of acetic acid and water be sold for cider vinegar, or a concoction of water and alcohol for wine. It therefore follows that invert-sugar, or any syrup obtained by artificial feeding, is not honey, and when sold as such is as much a violation of the moral law as selling "white-clover glucose."

In studying the food value of honey from the standpoint of nutrition, we may disregard the flavor and minor constituents, and consider the relations of the main constituent—invert-sugar—in the upbuilding of the animal organism. In the absence of any proof we must give levulose the same value as dextrose as a food, and there seems little doubt that the two sugars follow the same course to the blood.

Sugars are not found in abundance in the body. The blood contains a little dextrose, and the muscles inosite. The liver is stored with glycogen, an isomer of starch, but unquestionably derived from sugar. The generally accepted theory of sugar digestion and assimilation is that sucrose and starch are changed into dextrose by ptyalin and pancreatic ferments. The dextrose and levulose are carried to the liver and converted into glycogen. The glycogen is held in reserve to be reconverted into dextrose to replenish the blood when depleted in that constituent. By this means the circulating sugar is kept constant in quantity.

The food value of sugar has been underestimated in the past. Children are even to-day discouraged from eating candy, which their system craves, and are usually obliged to content themselves with penny goods and other cheap and inferior sweets. And this in the face of the fact that Nature has given her most emphatic approval of sugar as food by placing it in almost all animal secretions for the young. It occurs in predominant quantity in the milk of all mammalia; in human kind, constituting over one-half of the entire solids, and double the amount of any other constituent.

The sugars are the most available of the heat and energy producers. Recent investigations in Germany, France and Italy have shown that sugar acts as an immediate invigorator when fed to persons in extreme fatigue. People at extremely hard work immediately feel the recuperating effect of a sugar diet. The governments of Germany and the United States have added sugar to the rations of their soldiers. In this country the sugar is supplied in the shape of candy. Candies usually consist of mixtures of sucrose, dextrose and dextrin. There can be little doubt that if honey were substituted in part for candy in the soldier's dietary, even more favorable results would be obtained, because, first, honey is in a sense a predigested sugar, and the demand on the digestive forces is lessened; second, honey consists of almost pure invert-sugar, while candies contain dextrin of unknown food value, but certainly not as immediately available as sugar; third, honey is produced by bees unskilled in the art of sophistication, and above the practice of artificially flavoring and coloring, while candy is a product of human ingenuity, and may contain unwholesome constituents; candy usually contains glucose, a product not above suspicion; honey is made in Nature's laboratory; and, fourth, honey can more easily be used as Nature intended, and as experience has proven best—that is, in connection with other foods, as upon bread or hardtack. Candies, when eaten in excess, are unwholesome and cloy upon the palate.

In favor of candy it may be said that adulteration is becoming less and less prevalent, and in the higher-priced candies deleterious adulteration is almost unknown. This is largely due to the wisely directed efforts of the National Confectioners' Association.

Again, candy has an obvious advantage over honey in ease of transportation and distribution. Candy is possibly a trifle cheaper than honey in this country, but certainly not a luxury in the Philippines.

It is an interesting fact that the consumption of no other commodity, unless it be soap, so accurately measures the civilization of peoples as sugar, judged, of course, by our own standards. Great Britain consumes more sugar per capita than any other nation; next comes the United States, then in order follow Switzerland, Denmark, Sweden and Norway, Holland, France, Germany, Austria, Russia, Turkey and Italy. Some allowance must be made for Sweden and Norway, whose cold climate predisposes them to the use of the more concentrated fuels—the oils and fats.

I wish to say one word, in closing, for the dignity of the bee as a manufacturer rather than a collector or common carrier. It is indeed true that the bee may invade the sanctity of more than a million flowers to produce one pound of honey, but she has not gathered honey, only the raw material, which, by working over, she manufactures into honey. She then puts it up in her unique and inimitable original package, and marks each cell with her seal.

E. N. Eaton.

The Association tendered Prof. Eaton a vote of thanks for his excellent and instructive paper.

After supper the convention continued their labors. Some hilarity was also intersperst.

The following resolution was read and unanimously adopted, recommending Prof. E. N. Eaton for the position of State analyst:

"*Resolved*, That we congratulate the consumers of the State of Illinois upon the enactment of pure-food laws, and the appointment of a pure-food commissioner. We urge upon Commissioner Jones the necessity of securing honest, energetic and capable assistants to aid in carrying on the work.

"We would endorse Prof. E. N. Eaton for State Analyst, knowing his ability to properly carry out that branch of the work."

The question-box was then taken up. One question, "How to Increase the Attendance," was considered at length. As our first evening session was such a big success, it was considered best to hold the next meeting in the afternoon and evening, beginning at 1:30 p.m. and continuing until the members are tired. It was suggested that a lunch be served at 5 p.m., so as to "let no guilty man escape."

The convention adjourned to meet at 1:30 p.m., April 5, 1900.

Herman F. Moore, *Sec.*

Dr. C.C. MILLER

QUESTIONS AND ANSWERS.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—Editor.]

Looking for a Text-Book on Bees.

I saw in a recent answer to a question you refer to a text-book. Kindly tell me what book it is, and where I can get it.

Canada.

Answer.—You are on the right track when you inquire after a text-book. No bee-keeper should be without one. It is even more important than to have a bee-paper, and that's putting it very strong. There are several excellent text-books, any or all of which are good. By sending to the office of the American Bee Journal you can obtain, postpaid, any of the books mentioned on page 15, at the prices named.

Bee-Keeping as a Rural Pursuit.

Here are two sentences taken from Farmers' Bulletin No. 59, of the U. S. Department of Agriculture, which I want explained thru the columns of the American Bee Journal. The sentences read as follows:

1. "On the whole, there should be expected from the raising of bees for any purpose whatever, only fair pay for one's time, good interest on the money invested, and a sufficient margin to cover contingencies."

2. "With no greater expectations than this from it, and where intelligence directs the work, apiculture will be found, in the long run, to rank among the best and safest of rural industries."

Does the second sentence mean that bee-keeping is better, or safer, than all other rural industries? Or, does it mean that it is placed on an equality with other good rural industries, viz: Stock-raising, dairying, poultry-raising, etc?

In explaining the foregoing, I want only the sentences explained as they read, and not as to your opinion whether bee-keeping is better or equal to the others named.

Kansas.

Answer.—Taking the sentences as they read, they seem to mean that when the whole line of rural industries is considered, bee-keeping will be found one of the safest from risks, and among those yielding the largest pay for capital and labor.

Granulated Honey—Feeding Bees—Fertilization in Confinement—Foul Brood.

Altho not a beginner in bee-keeping, there is much in this trying year where I am at a loss to know what to do. Southern California was unfortunately visited by two successive dry years (1898-99), with insufficient winter rains and dry, hot winds, and in consequence the farmers and bee-keepers have a hard time of it. This season was, so to speak, a total failure.

My apiary is situated in a sheltered nook at the base of San Jacinto Mountain. I bought 80 colonies last spring, of which I workt 70 for extracted honey.

1. The early part of this season my bees did fairly well on alfillaree clover and fruit-tree bloom, from the adjoining fruit colony, but the first honey, altho it was by no means

too ripe when I extracted, would candy or granulate within a day or two in the tank. What was the probable cause? I never have noticed this occurring with the early honey for years. It is very annoying and laborious to have to spade the honey out of the tank and dissolve it by heat or the solar extractor, in order to fill it in tin cans for market. I presume the extreme dryness of vegetation is the immediate cause. How would you remedy it?

2. Please illustrate the safest and cheapest method of feeding needy colonies without exciting robbing or drowning?

3. Do you think fertilization of queens in confinement is a possibility to produce a certain variety of bees? Or, is it best to import a tested queen?

4. Foul brood has done its ravages in Southern California apiaries. A treatise on this subject, and remedy, if there is any except extermination, would be welcome.

I think that 60 colonies of mine are safe to winter thru, and we all hope, with sufficient winter rains, that next spring will refund us for our severe losses. CALIF.

ANSWERS.—1. There is a great difference in the granulating of honey from different plants. Some kinds yield honey that will continue liquid a year or years; the honey from most plants will granulate in the course of the following winter; while some kinds will begin to granulate a few days after being gathered. I don't know the reason for it, and never heard of any reason. Neither do I know of any remedy.

2. I know of no safer nor more satisfactory method than to use the Miller feeder. The feeder is put on the hive the same as a super, and putting on the one will no sooner start robbing than putting on the other. When your feeders are all on and left uncovered, you can go around and put in each the amount of dry sugar you desire up to 15 pounds, and the dry granulated sugar will no more start robbing than so much sand. Then you can go around and pour on cold water without danger of robbing and cover up the feeders. After the sugar has been dissolved by the water, then the robbers will get in their work if the feeder is not carefully covered.

A cheaper way is by the crock-and-plate plan. Take a common stone crock (a gallon crock is a good size), fill it ¾ full of sugar, or less, as you desire. Put in as many pints or pounds of water as of sugar, cover the crock with a single thickness of flannel or woolen cloth, or with 5 or 6 thicknesses of cheese-cloth; lay over this a dinner-plate upside down, put one hand under the crock and one over the plate, quickly turn the whole thing upside down, and place over the frames of the hive with an empty hive-body about it, and covered up so no robbers can get in from outside. With either of these plans the feeding must be done before cold weather; better not later than September. If you are so unfortunate as to need to feed in winter, and have no combs of honey, lay cakes of candy over the frames, and cover up warm.

3. I have no faith in fertilization in confinement. At different times in the past there were reports of success, but the reports lackt confirmation in the way of having the thing repeated in the same way afterward. Get a good queen to start with, and run your chances of pure fertilization, altho it would be better to have one choice queen for drones and another from which to rear queens.

4. Such a treatise is already on the market in Dr. Howard's pamphlet on foul brood, which can be had from the office of the American Bee Journal for 25 cents.

Apartment and Department—Alfalfa.

1. How do you tell the two different apartments—the brood apartment and the surplus apartment?

2. Does alfalfa bloom make good honey? CALIF.

ANSWERS.—1. It is not strange that there should be some uncertainty as to the proper meaning of the word "apartment" as used in bee-culture. In the first place the words "apartment" and "department" are not infrequently confused. An apartment is a separate room or place, usually separated by some sort of a partition from other apartments. A department is something separate as to character rather than place; as the dry goods department and the grocery department of a country store, or of a department store. The two departments may be in one apartment, and one department may fill several apartments. Everything pertaining to the brood in any way may be said to belong to the brood department, no matter in what part of the hive it is; and what pertains to the surplus may be said to belong to the surplus department, no matter in what apartment it may be.

The word "apartment" is the one most commonly used in bee-keeping, and it is not easy to keep it exactly straight. There is generally no difficulty in distinguishing a pig-pen from a bed-chamber, but in an Irishman's shanty with the pig sleeping under the bed (as reported) the distinction is not so clear. So the brood apartment may be sharply separate from the surplus apartment; as in the case of a box-hive with glass boxes for surplus on top, in which case the top of the hive separates the brood apartment below from the surplus apartment above. Or, there may be no such thing as two separate apartments, the brood and the surplus being all in the same apartment; as was the case with the old-fashioned straw-skeps, or even a box-hive with no surplus boxes on top.

The general rule is that the lower story is the brood apartment, everything above constituting the surplus apartment. There may be little or no real partition between the two apartments, just as in the case of two rooms in a house with large folding-doors or portieres between, there can scarcely be said to be a partition, still the apartments are considered separate.

2. In many parts of the West, as Utah, Colorado, etc., alfalfa is one of the best honey-plants. In the East reports seem to give it no standing whatever as a honey-plant. In at least some parts of California its reputation is good. Wherever it does yield honey, the character of the honey is excellent, with many being considered as having no equal.

Preparing Bees for Moving.

I have 48 colonies of bees that I have to move not later than March 1. They are in a cellar, bottom-boards off, covers sealed down. How can I best succeed in moving them about 7 miles? How ventilate, and how fasten the bottoms on?

Would a strip nailed on each corner of the hives, and also nailed into the edge of the bottom-board, be a good way? I have thought so—what do you say to that?

IOWA.

ANSWER.—The first thing is to let the bees have a flight after being taken from the cellar before any attempt at moving them. To take them directly from the cellar to their new place would be somewhat disastrous, in all probability. The weather is usually so cool on the first of March that very little ventilation is needed. Wirecloth at the regular entrance will be sufficient. The particular way of fastening it on depends upon the kind of hive and entrance you have. One way lately given in Gleanings in Bee-Culture is probably as easy as any: Cut a piece of wirecloth as long as the entrance is wide, and two or three times as wide as the entrance is deep. Bend it V-shape the entire length; push the sharp end of the V into the entrance and drive in a nail near each end to prevent the wirecloth from springing out again.

Your plan of fastening the bottoms to the hives will be all right. You may like better to use staples. What are called tobacco-staples are all right—a staple about 1½ inches wide with legs ¾ inch long. Drive one leg of a staple into the hive and the other into the bottom-board.

Sweet Clover in Canada.

When is the best time to sow sweet or white clover, and the kind of soil best suited to it? Also, will sweet clover suit this northern climate? There is none here. ONT.

ANSWER.—Any time from fall to spring will do. So long as you didn't sow it in the fall, wait till the ground is open in the spring, then roll it into compact soil. One of the best ways is to let stock tread in sweet clover seed. Any soil will do, especially poor lime soil. Sweet clover does well in Canada.

"The Hum of the Bees in the Apple-Tree Bloom" is the name of the new bee-keeper's song—words by Hon. Eugene Secor and music by Dr. C. C. Miller. This is thought by some to be the best bee-song yet written by Mr. Secor and Dr. Miller. It is, indeed, a "hummer." We can furnish a single copy of it postpaid, for 10 cents, or 3 copies for 25 cents. Or, we will mail a half-dozen copies of it for sending us *one new* yearly subscription to the American Bee Journal at $1.00.

AMERICAN BEE JOURNAL.
ESTABLISHT IN 1861 OLDEST BEE-PAPER IN AMERICA
DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS.

PUBLISHT WEEKLY BY
GEORGE W. YORK & COMPANY,
118 Michigan Street, Chicago, Ill.

[Entered at the Post-Office at Chicago as Second-Class Mail-Matter.]

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IMPORTANT NOTICES:

The Subscription Price of this journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "Dec00" on your label shows that it is paid to the end of December, 1900.

Subscription Receipts.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows you that the money has been received and duly credited.

Advertising Rates will be given upon application.

VOL. 40. JANUARY 11, 1900. NO. 2.

EDITORIAL COMMENTS

NOTE—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

Careless Correspondents.—Dec. 30 we received a one-dollar bill for renewing subscription, with a sheet of note-paper in an envelope, but no name or address given so we could tell who sent it. The postmark on the envelope was "Treadwell, N. Y." We can hardly understand how any one could be so careless. It is very annoying to us to receive such letters, and no doubt is the cause of much loss to the careless people who make such mistakes.

Everybody who pretends to do any business whatever should have at least a rubber stamp with their correct name and address on it, and then with it stamp at the top of every sheet of paper they use. This would help out all right when they are so forgetful as to write a letter and then not sign it.

"The Coal-Tar Products."—Mr. Thos. Wm. Cowan, editor of the British Bee Journal, but now in California, wrote us as follows, Dec. 26, 1899:

On page 786 (1899), Prof. Cook writes under the above heading, and from what I can gather he thinks naphthalene would act more surely in destroying foul-brood germs if given to bees in their food.

Allow me to caution bee-keepers in doing so, as otherwise the result may be as disastrous as they have been where the error has been made in giving naphthalene in place of naphthol beta.

Naphthalene, when placed in a hive, does not destroy the germs, but, until it has evaporated, prevents the development and growth of bacteria. The constant presence of naphthalene in a hive tends to prevent the disease from gaining ground. Of course, too much in a hive is obnoxious to bees, and they leave it, and in some cases brood has been found damaged. That is why the amount recommended does not exceed two balls at one time in a hive.

For giving in food, naphthol beta (usually written "Naphthol B.," to distinguish it from the Naphthol A. series) only is used. I do not know what naphtha beta is, or what its effect on bees would be. Naphthol beta, in the dilution generally used, does not destroy the spores or bacillus of foul brood, and its efficacy depends upon its preventing the spores from germinating or killing the bacilli, when the spores have turned into these. This is the reason why it is recommended to have it always in the food given to bees. There is no known chemical substance that could be given in sufficient strength to kill the spores but what would also destroy the bees. THOS. WM. COWAN.
Monterey Co., Calif.

The United States Bee-Keepers' Association.—General Manager Secor's annual report for 1899 was received at this office the last week in December, and reads as follows:

REPORT OF THE GENERAL MANAGER FOR 1899.

To the Members of United States Bee-Keepers' Association:

The chief work of the Association during the year 1899 has been the attempt to stop the sale of adulterated extracted honey.

The place chosen to begin operations was Chicago. This was agreed on because it was thought that the laws of Illinois were explicit enough and severe enough to warrant an attempt to enforce them in the interest of pure food.

Attorney Herman F. Moore, a bee-keeper and member of this Association, assisted by George W. York, editor and publisher of the American Bee Journal, proceeded to collect samples of so-called extracted honey with the intention of prosecuting the offenders, if on analysis they should prove to be adulterated. Nine samples were selected out of a dozen or more bought at different groceries. Out of the nine, five were selected, and a complete analysis made for use in court. That some of them were adulterated was clearly proved by the chemical analysis.

Suit was brought in Justice court against one of the retail grocers where one of the jars was bought, which on trial was proved to contain 90 percent glucose. Notwithstanding that fact, and notwithstanding the law and evidence were clearly on the side of the prosecution, the Justice discharged the prisoner. It was a surprise to everybody connected with the case, except possibly to the judge and lawyer for the defence.

Altho the bee-keepers lost the case in court, the trial elicited so much interest, and was so widely advertised in the daily papers, the result was that one of the leading wholesale grocery houses (and the one, by the way, where the very bogus honey in court was obtained) put out the following circular to the trade:

> "PURE FOODS.—We believe the tendency of the buying public in the future will be in the direction of strictly pure foods; and in our opinion the result of this will undoubtedly prove highly beneficial to the health of the consuming public, and unquestionably more satisfactory to the jobber, retailer, and everybody concerned in selling this quality of goods.
>
> "Adulterated articles in the food line are still on the market.......... but we believe it will be to the best interests of all concerned to advocate the purchase of pure foods as speedily as possible. Unless you know it to be a positive fact that the article you are selling is absolutely pure, do not sell it as such. If you are in doubt, make it known that way."

The above circular was dated and sent out the day of final trial. It lookt very much as if the notoriety which Chicago houses were getting thru the papers awakened them to the need of doing something to hold their trade.

Therefore, altho the first drawn battle in the interest of pure extracted honey was an apparent defeat, it seems to have aroused public opinion sufficiently to do good.

No further prosecutions were ordered against the sellers of the other adulterated samples gathered, partly for the reason that not sufficient funds were left in the treasury to continue the fight; and for the further reason that Illinois will soon have a Pure Food Commissioner who, it is to be hoped, will assist, if not take the lead, in the enforcement of the pure food laws, including adulterated honey.

It is the duty of the States Attorney to prosecute for the people all violators of the criminal code, but unless some one stands at his back and insists, and assists, he evidently does very little. We found it was necessary to help prepare the papers and to produce numerous witnesses. Mr. Moore and Mr. York spent a good deal of time, and did faithful and valuable work for the Association, the latter without any compensation whatever.

I have written 95 letters on a variety of subjects pertaining to the work of the Association, besides the receipts for membership fees. Among these have been articles for the press, trying to correct erroneous impressions regarding the manufacture of comb honey; letters in the interest of pure-food legislation; advice to bee-keepers who were likely to suffer by the untimely spraying of orchards; advice to other bee-keepers who had been ordered to remove their bees from town, or from the proximity of fruit-farms; legal advice regarding the ownership of absconding swarms; the settlement of disputed accounts, bad debts, etc. None of these matters have required legal procedure or defense at the expense of the Association. It has been the aim of the General Manager to avoid litigation whenever possible to effect an honorable settlement.

It seems our Canadian brethren have the same troubles that we of the States do. G. A. Deadman, of Ontario, was annoyed by a quarrelsome neighbor who brought suit to compel him to move his bees. On my advice he employed an able attorney and resisted the suit, promising to write me if anything unusual developt. As I heard nothing from him I infer that his touchy neighbor has not succeeded in getting the court to declare bees a nuisance. With my letter of advice in this case, I sent him a copy of the decision in the celebrated "Arkadelphia case," which Mr. Newman defended and won with such signal ability.

At the annual meeting of the United States Bee-Keepers' Association held at Philadelphia last September, Mr. Newman, General Manager of the National Bee-Keepers' Union, and Dr. Mason, representing our society, submitted a new constitution to be voted on by both societies with a view to unite the two if the members of both societies so vote. There will be mailed, therefore, with this report the new constitution to be voted upon by all persons who are eligible to vote. It is to be hoped that the project so favorably started may be carried thru, thus uniting all the bee-keepers in one strong organization.

Mr. Newman has exercised a large influence in building up an organization of bee-keepers, and has done much valuable service in their behalf. The relations between him and the writer hereof have been most pleasant. The appreciation for his good work can not be too cordially exprest.

The financial statement herewith submitted shows a a small balance in the treasury, but if we carry forward the work which we are expected to do another year toward enforcing the laws against the adulteration of honey, it is needful that all bee-keepers cast in their mite to aid in the good work.

Fraternally yours,
EUGENE SECOR, *General Manager.*

The new constitution referred to by Mr. Secor was publisht on page 707 of this journal for 1899.

The treasurer's statement shows a balance in the treasury of $131.22.

The present list of members, the names of whom accompanied the annual report, shows 400. There ought to be at least five times that number. Why can't there be? Surely, bee-keepers cannot expect their national organization to do much for them and their industry when they give it so small support. With a membership of 2,000, and the consequent enlarged treasury fund, there is no telling what good things might be accomplisht. We wish the officers might have the opportunity to show what they could do with ample funds and large membership.

Lace-Paper Edgings for Sections of honey are much used in England. Any imperfections about the outer part of the comb are thus hidden from view. The British Bee Journal, in order to show to what extent this matter is carried, gives a fine picture of a section bought in a store out of a large lot similarly gotten up. The actual surface left uncovered by the paper is 2⅛ inches square; that is, the purchaser is able to see a little more than one-fourth of the surface. No wonder the British Bee Journal calls a halt.

The Premiums offered on page 27 are well worth working for. Look at them.

Your Bee-Keeping Experiences Wanted.—We are always glad to publish the good things that our subscribers send in, drawn from their actual work with the bees. Many a little short cut or kink that you use would help some other bee-keeper if you would write it out and send it in for your bee-paper to publish.

We do not ask this as would a beggar, but simply suggest that as you have been helpt by the writings and experiences of others, it is no more than fair that you should contribute your share as a slight token of your appreciation of the aid you have received from those who have been glad to give what they could to make your efforts more successful in the apiary.

Taking Care of Things.—Somnambulist, of the Progressive Bee-Keeper, has had his dreams disturbed by the reckless way in which some bee-keepers let apicultural appurtenances go to waste. Hive-bottoms are allowed to rest immediately upon the ground; wax-extractors have the glass exposed to accident all the year round; and then he goes out of his way to shy a stone at Farmer Shiftless who allows all his farm implements to become toughened by exposure to the weather.

The Weekly Budget

MR. M. H. MENDLESON, of Ventura Co., Calif., writing us Dec. 16, said: "At present we are having a good rain, but it is the late rains that decide the season."

* * * * *

A NEW ORGANIZATION among the bee-keepers of South Dakota will be formed at Yankton, Jan. 25. We hope it will have the support of all the bee-keepers in that region.

* * * * *

"A CERTAIN CHINESE FLOWER," it is said, "is red in the sunlight and white in the moonlight." If it yields nectar, we presume it would have to be gathered by the bees at night in order to produce white honey.

* * * * *

MR. ALBERT GEISE, of Idaho, sends us a newspaper clipping telling of a swarm of bees that settled on a bicyclist, and when the wheeler retreated the bees located on the saddle of his wheel. They were then scoopt in a box by a colored man—about a peck of bees.

* * * * *

MR. A. L. MCFARLANE, of Wallawalla Co., Wash., wrote us recently expressing the wish that some Western bee-supply dealer would advertise in the Bee Journal, as the freight rates from the East are very high to that State. We should think it would pay some Pacific Coast dealer to keep a standing advertisement in these columns.

* * * * *

MRS. THOS. S. WALLACE, of Adams Co., Ill., died with consumption Dec. 31, 1899. She was nearly 61 years of age. Mr. Wallace has been an exhibitor of bees at the Illinois State Fair the past few years, and one of our subscribers for a long time. We extend to him sincerest sympathy in his bereavement, and are glad to know that he mourns not as those who have no hope of a reunion by-and-by.

* * * * *

EDITOR ERNEST R. ROOT attended the annual convention of the Colorado bee-keepers, held in Denver last month. He says it was a success in every way, with an attendance of from 50 to 80. Those Colorado bee-folks know how. They generally have one of the very best State bee-keepers' meetings that can possibly be gotten up. But, then, they are always "Akin" for the best of everything, or else "Rauchfussing" around after it. Hurrah for those get-there Coloradoans!

SUFFERERS
FROM LUNG OR KIDNEY
troubles can obtain valuable advice, FREE, by addressing DR. PEIRO,
34 Central Music Hall, CHICAGO.

☞Write at once, stating age, sex, occupation, how troubled, post-office address, and enclose return stamp for immediate reply.

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needs a guardian or the Page Fence is a success. Over 500,000 are now using it and calling for more.
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BEE-SUPPLIES 40-page CATALOG FREE. Goods are the BEST. Prices are right. We can save you some on freight. Enquire of us.
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That covers the whole Apicultural Field more completely than any other publisht, send $1.25 to Prof. A. J. Cook, Claremont, Calif., for his
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Liberal Discounts to the Trade.

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It stands for American farmers and producers. It is the leading exponent of agriculture as a business, and at the same time the champion of the Agricultural States and the producer in politics. Subscription, One Dollar a Year.
☞ Write for Sample Copy
Please mention Bee Journal when writing.

BEEDOM BOILED DOWN

Celluloid for Quilts and Excluders is used in England. For quilts, celluloid has the advantage (whatever that may be) that one can lift the cover and look down upon the bees without taking off the quilt, as the celluloid is almost as transparent as glass.

Necessity of Covering Apiaries in Cuba is the heading of an article in the American Bee-Keeper, by Col. G. Garcia Viete. Before the war he had 500 colonies in one apiary and 1,200 in another, and he felt that a roof was an actual necessity. He is again building up his apiaries destroyed by war, having 200 colonies under roof and as many more under available shade. He can examine those under roof in two or three days, while it requires more than a week to look over those out-of-doors. The heat of the sun melts foundation in an hour in exposed hives, but it will not do to keep hives in groves on account of malaria. After the very heavy rains of several days, the bee-keeper cannot work at hives without roof for several days on account of mud. The roof must be strong to withstand the fierce winds.

Disposition of Combs with a Little Honey.—In the report of the Brant County convention reported in Canadian Bee Journal, appears the following:

"What would you do with combs having small quantities of honey in them in the fall? was the next question. Some members advocated setting them out in the yard and allowing the bees to clean them out. Mr. Pepper said that he preferred to extract them even tho the work seemed tedious and unprofitable; leaving honey around the yard has a tendency to excite the bees and often leads to no end of trouble by their robbing. Mr. Edmonson said that he did not favor the idea, for the same reasons, and, besides, they tear and destroy the combs. Mr. S. T. Pettit's plan of placing the super of each hive in front of the colony it belongs to, in order to clean out the combs, after the last extraction, was dwelt upon; some could not see how this would be practical in a yard of 70 or 80 colonies, as it would take some time to do the extracting, and all could not be placed at the same time. J. H Shaver and W. J. Craig observed that the moth will not attack combs left moist with honey, as they are after extracting, so readily as they will dry combs. The combs will keep better, are not nearly so easily broken, and, besides, the bees will take to them more readily when placed in the hive next season."

Black Bees and Foul Brood.—Editor Simmins makes this statement:

"Native bees are decidedly more subject to the disease of foul brood than either Carniolans or Italians; while the latter more readily respond to treatment when affected, and will quite frequently dispose of the malady without aid from the owner."

He quotes W. Symes, from the Australian Bee-Bulletin, as saying that in his earlier experience he kept black bees and was almost in despair with foul brood, but since keeping Italians the disease had gradually disappeared and now ceast to trouble him. In an experience of 25 years, Editor Simmins has had plenty of proof come under his own observation. He says:

"Our first terrible experience with foul brood occurred over 20 years ago. The bees attackt were, with two or three exceptions, so-called black bees, and these could not keep the disease under. The Italians soon disposed of it with a little assistance, and upon removal of the queen, every vestige of the complaint disappeared from the combs. On later occasions, in buying black bees from a distance, the disease has come

Yellow Sweet Clover Seed
WE HAVE IT AT LAST!

We have finally succeeded in getting a SMALL quantity of the seed of the YELLOW variety of sweet clover. This kind blooms from two to four weeks earlier than the common or white variety of sweet clover. It also grows much shorter, only about two feet in hight. It is as much visited by the bees as the white, and usually comes into bloom ahead of white clover and basswood. We offer the seed as a premium

A QUARTER POUND FOR SENDING ONE NEW SUBSCRIPTION.

So long as it lasts, we will mail a quarter pound of the seed to a regular paid-up subscriber who sends us ONE NEW subscriber for the American Bee Journal one year, with $1.00.
We have been trying for years to secure this seed, and finally succeeded in getting it. It is new seed, gathered last season by an old personal friend of ours, so we know it is all right. But we have only a small supply. When nearly out we will mention it.

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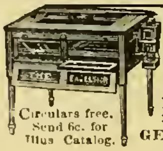
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has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.
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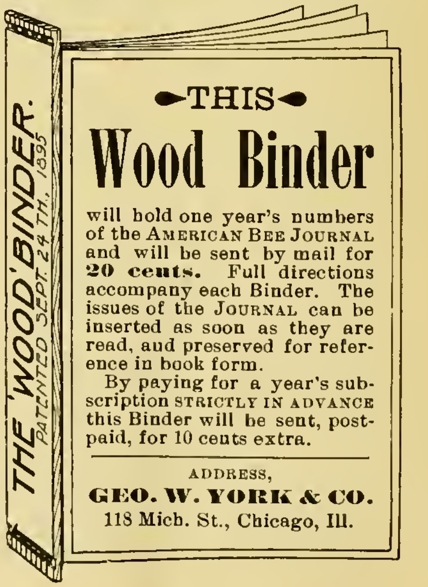

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Root's A B C—the 67th thousand! Who ever could have imagined it? But then, this is a book which requires to be known before the fact of its enormous circulation can be realized. And when once known it is a book to be prized beyond many others, for its complete, interesting and practical nature. "A cyclopædia of everything pertaining to the care of the honey-bee" in very truth; a book of fine views and photographs, almost; illustrations of all the noble machinery used in one of the largest bee-supply factories in the world. Almost every thing a bee-man wants to know is given in precise alphabetical order, while its exceptionally clear type is brought out in the true American style of excellence. If there is any book on apiculture that may be thoroly recommended, it is this of The A. I. Root Co., Medina, Ohio.—BEE-CHAT, LONDON, ENG.

For Sale by all dealers in Bee-Keepers' Supplies, or sent by us for $1.20, or clubbed with Gleanings in Bee-Culture one year for $1.75.

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MEDINA, OHIO.

Watch this column next week......

upon us again, but at no time have we had any difficulty in keeping our foreign colonies clean, while those bought were readily treated as soon as the queens were changed and the foreign varieties hatching out.

"On one occasion we bought a number of colonies from (we then found) an infected source. Half were native, the rest Italian. The former were diseased, but none of the Italians.

"In another instance we bought 8 colonies of black bees. At the time, and even for several weeks after transferring, these bees appeared quite healthy. Presently, one after the other showed evident signs of disease, and tho we gave medicated food and otherwise treated them, thus restraining the malady, there was no disposing of the scattered foul cells until the queens were superseded by Carniolans and Italians. During the whole time these were the only colonies diseased among an apiary of foreign bees many times their number."

Wiring Frames with Thread.—It is somewhat doubtful whether anything can be better for wiring frames than the fine wire usually used, but it seems that in England some prefer thread. If thread is used without preparation, the bees tear it down. A. H. Miller gives, in the British Bee Journal, his method as follows:

"I got some tailor's 'yellow twist,' then melted some beeswax in a jam-pot, leaving it upon the stove till the wax came to the boil. I then put in the twist and boiled the wax well into it, then removed and run it round a reel. I then used the waxt thread upon about a dozen frames, and not one was gnawed off by the bees. The combs also stood the extractor well. In fixing foundation in frames, I use a small brad-awl to make two holes at each side or end of frames on the outside; these two holes are made to run into one on the inside, so as to have the two threads quite close together at about 2 inches from the bottom-bar. I never use more than that amount of support, and never had one break down after using it with some hundreds of combs last season with the waxt twist in the extractor.

"The bees seemed rather to like the waxt thread, for they imbedded it so that you can scarcely see it in the combs. It is also much nicer to use than wire, besides being so simple."

Getting Queen-Cells Started.—One of the live topics of the day is the improved methods of queen-rearing, new points being brought out every now and then, showing that some little thing has made all the difference between success and failure. Editor Pender, of the Australasian Bee-Keeper, says that when he gives royal jelly, it too often occurs that it dries up in a condition unfit for the larvæ, and he gets better results not to use jelly. He proceeds as follows:

"I have a colony queenless in which there are one or more frames of *young* unsealed brood—the younger the better. When I arrive at the apiary in the morning, I remove these frames of brood for which the bees are busy preparing milk food, and so cause them to accumulate it in their stomachs. When leaving the hive I leave an empty space between two combs for the prepared frame; in this space the bees will cluster in large numbers. From two to four hours later, I take a frame of prepared cell-cups and transfer, as rapidly as possible, the larvæ selected for queens and place this frame in the vacant space, so great is the cluster of bees that time has to be allowed for the frame to settle into position, or if the frame is forced down bees will be crusht. I now have my prepared cells immediately surrounded by bees having plenty of food prepared to feed the royal larvæ, and if this frame is examined in an hour, not only do we find the larvæ well fed, but the cups shaped into true queen-cups. The cups are hardly given before the bees start feeding the larvæ. These larvæ receive only the freshly-prepared food.

"To obtain larvæ suitable for grafting, I

Langstroth on... The Honey-Bee

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This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains over 500 pages, being revised by those large, practical bee-keepers, so well-known to all the readers of the American Bee Journal—Chas. Dadant & Son. Each subject is clearly and thoroly explained, so that by following the instructions of this book one cannot fail to be wonderfully helpt on the way to success with bees.

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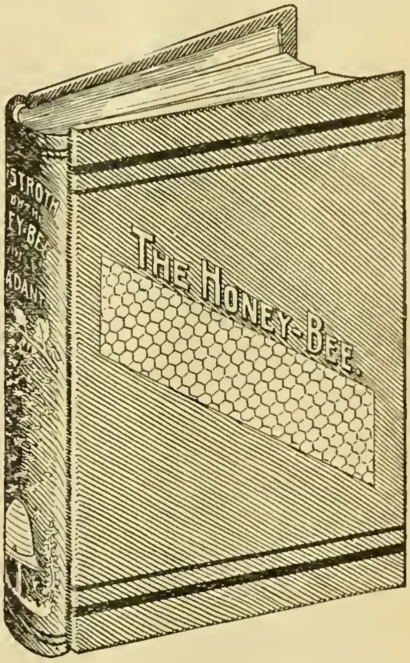

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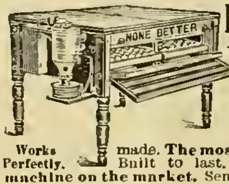

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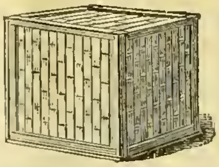

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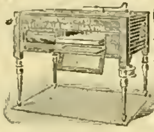

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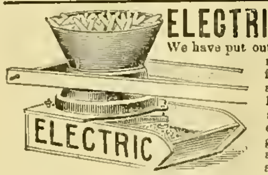
Des Moines Incubator Co., Box 78, Des Moines, Ia.



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A heavier and stronger knife than the one we offered heretofore.)

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Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty. The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the Subscriber.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a lifetime, with proper usage.

Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the Novelty is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the Novelties, your Pocket-Knife will serve as an identifier; and in case of death, your relatives will at once be apprised of the accident.

How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

How to Get this Valuable Knife.—We send it postpaid for $1.25, or give it as a Premium to the one sending us three new subscribers to the Bee Journal (with $3.00), and we will also send to each new name a copy of the Premium Edition of the book, Bees and Honey. We will club the Novelty Knife and the Bee Journal for one year, both for $1.90.

GEORGE W. YORK & CO., 118 Michigan Street, CHICAGO. ILL.

keep my breeder-queen well supplied with bees and with but few larvæ, so that they are abundantly fed. If you look into your hives you will always find that colony having but little unsealed brood, has the larvæ for the first few days floating in an extra abundance of white milk food, which is the royal jelly of the queen, and, when transferring, the larvæ are floated upon the transfer-stick without touching them, and sufficient of the jelly transferred with them to surround them in their new cradle. If the cups, as now workt on by the bees, are placed in an upper story of a *strong* colony, having frames of unsealed brood, a queen-excluder over the brood-chamber, and an *old* queen laying below, the cells will be completed by the bees, and good cells will be the result if not more than a dozen be given at one time. When removing this frame of cells from the queenless colony, take what bees are hanging to the frame, and a second frame of prepared cups can be given the queenless bees, and I should say it was far more certain to have the cells started by queenless bees than placing the prepared cups at once in the super over the queen-excluder, at least I have found it so, as my bees always refused to accept the cups unless workt on by the queenless bees. If a large number of queen-cells are required, the queenless bees will start several prepared lots in one day."

GENERAL ITEMS

A Fair Yield of Honey.

The past season was not a very good one here. The honey crop was generally light in quantity, but not in quality. I had a fair yield—nearly 1,500 pounds from 40 colonies, mostly buckwheat honey. I think that nearly all the bees in this part of the country went into winter quarters with an abundance of good buckwheat honey, which I consider is the very best for outdoor wintering. Ed. Jolley.

Venango Co., Pa., Dec. 14, 1899.

Bees Did No Good.

My bees have done no good this season, but I enjoy the Bee Journal and hope for better success next year. I bought some golden Italian bees and have sown some sweet clover seed. My bees are in good condition for winter, as they loaded up pretty well on goldenrod and wild aster.

Will C. Gruber.

Martin Co., Ind., Dec. 25, 1899.

Total Failure—No Clover Honey.

Bees were a total failure here the past season. There was no clover. Where there was basswood they did fairly well; it lasted about 12 days. D. E. Whiting.

Dodge Co., Minn., Dec. 23, 1899.

A Young Beginner's Experience.

I commenced keeping bees for a man that I workt for, but he never read about bees, and wouldn't let me manage them the way others' experience had taught me, so we didn't have much success. I bought him out last spring—five colonies for $20. They increast to 12 colonies, and I got 50 or 60 pounds of honey from three. It was a very poor season for bees here—too dry. I was away two weeks in September, and the moth-millers got into one colony and destroyed about half of the combs, so they became discouraged and went away. I now have 11 colonies packt with wheat straw and chaff.

I have always been very much interested in bees, and since I have taken the American Bee Journal I like the business better than ever. I get so much information out of it that I wouldn't do without it under any condition.

I think this is a good location for bees. I am 19 years old, and have been farming.

I saw an article about bees working on strawberry blossoms. I don't think I ever saw any honey-bees working on these blossoms. JACOB STINE.

Barry Co., Mich., Dec. 20, 1899.

Bees Didn't Do Well.

I put 180 colonies of bees into winter quarters—90 in a shed and 90 in the cellar. Bees did not do very well here the past summer. From 130 colonies, spring count, I got 3,000 pounds of nice section honey. The new swarms did not do anything. The bees I put in the shed last winter came out all right. WM. J. HEALY.

Iowa Co., Wis., Dec. 19, 1899.

Half a Crop—Smoker-Drops.

We got only half a crop of honey here the past year, with large winter loss.

I would suggest to Dr. Miller (concerning smokers dripping) to use chips of soft wood, which do not contain any tar when pickt up in the spring after lying all winter on the ground. With these I have had no trouble from black drops.

L. A. SYVERUD.

Lincoln Co., S. Dak., Dec. 19, 1899.

Bees Did Fairly Well.

My bees did fairly well the past season, as they averaged about 60 pounds to the colony. They did well in fruit-bloom, but the forepart of June they were short of food, and if I had not fed them I should have lost some by starvation. Our main supply is from sweet clover, catnip and buckwheat. M. BEST.

Lucas Co., Ohio, Dec. 18, 1899.

Looking for a Good Season.

The bees did not do any good here this year, but they are wintering well up to the present. They have plenty of honey to winter on. We are looking for a good honey season.

The American Bee Journal is certainly up to the times; I could not keep bees without it. B. F. BEHELER.

Summers Co., W. Va., Dec. 25, 1899.

A Poor Year, But Prices Good.

I lost only one colony last winter, and that died of starvation. I started in the spring of 1899 with 54 colonies, and increast to 58. It has been quite a poor year. I obtained a trifle over 1,500 pounds of honey but prices have greatly helpt to make up for the small crop. J. L. HAIGHT.

Delaware Co., N. Y., Dec. 19, 1899.

A First Season's Report.

This has been my first season with bees, and it was a poor one. I got two colonies June 15, and lost one queen from some cause, but by June 27 I found five young queens hatching, so I made a division and saved two of them, and by so doing I increast to five colonies. But I had to feed to July 1; and then in October I had to feed again, so they would have enough to winter. TAYLOR BISER.

Buffalo Co., Nebr., Dec. 13, 1899.

Reports from Two Apiaries.

In the apiary I had in charge for 1899, I began with 21 colonies, spring count, in fair condition, but only increast, by natural swarming, four colonies. The total number of pounds of honey taken was 1,996, mostly extracted, or a general average of 95 pounds per colony. Our season was not anything to brag of, as the clover did not do as well as I expected.

The following is the report of my own bees for the season: I began with two colonies, spring count, and had no increase, but got 156 pounds of extracted honey. The cause of falling off as compared with the above report was as follows: One colony I transferred from a box-hive to a movable-frame one, and for the other I bought a new queen, and let them run down while I was waiting for the queen. Nearly half of the honey was from asters.

J. WILEY MOUNTJOY.

Anderson Co., Ky., Dec. 21, 1899.

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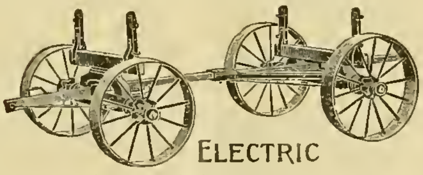

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A "Too-Too" Season for Bees.

The past season was a poor one for bees here. I got only about 300 pounds from 43 colonies. The weather was too cold, too hot, too wet, and too dry. This is the nearest I can come to explaining why. I had five colonies robbed out, and I put 40 into the cellar Dec. 14, rather light in bees and stores, but I think most of them will come out all right. The wild or bee aster (wire-weed we call it) was the salvation of the bees here the last season. It never fails to yield more or less honey every season, during September and October, wet or dry. RUFUS WILLIAMS.

Lawrence Co., Ind., Dec. 21, 1899.

A Rather Late Swarm.

I had a fair-sized swarm of bees come to my apiary Nov. 23, and settle on a willow-tree near the ground a few feet from the hives. I got an empty hive and put in full combs of honey, leaving a couple of empty combs in the center. They marcht in with their queen at a lively rate, and seem in fine condition at present. My bees have been gathering pollen from some source every day up to the present writing. Brood-rearing is in progress all the time, and the hives are full of fine alfalfa honey. I have 200 colonies of hybrids.

L. E. REDDEN.

Maricopa Co., Ariz., Dec. 18, 1899.

Bees Did Fairly Well.

My bees were put into winter quarters Dec. 4. The temperature dropt then to 30 degrees above zero. Last spring was cold and backward for bees, and it took quite long for them to build up, but under the circumstances they did fairly well. I got about 1,300 pounds of honey, and I am now living in hopes for a better crop next year.

C. H. VOIGT.

Manitowoc Co., Wis., Dec. 26, 1899.

Report for the Season of 1899.

I began in the spring with 22 colonies, increast to 32, and produced 1,000 pounds of honey, which I sold at home for 10 and 12½ cents a pound. O. B. MONTFORT.

Shelby Co., Ky., Dec. 25, 1899.

Color of Combs and Color of Honey.

I noticed in the discussions at the Philadelphia convention (page 805, 1899) Dr. A. B. Mason askt the question, "Does the color of combs have any influence on the color of honey?" I desire to make a reply to that question in the affirmative. Old combs that have had brood reared in them for any considerable length of time become about the color of dark plug tobacco, and honey, let it be ever so clear, will, after being stored in such combs, become very much discolored by actual test. But such combs are tough and make the very best of extracting-combs, if properly treated; and here is how I do it:

Lay them out in the rain, turning them over occasionally to get both sides filled. After letting them soak for awhile, lay them one at a time on a division-board, and with a quick, downward motion the water can nearly all be thrown out of the upper side, then reverse and go thru with the same motion. The water from such combs will be about the color and flavor of tobacco-juice. Keep on with this filling and throwing out of water until the water is clear, and your honey will show no stain whatever. Of course, I have city water, and in lieu of rain I fill the combs under the hydrant, and lay them on the grass to soak. I have a great many such combs, some with considerable drone comb in them, but that's no difference, as such combs will be filled by the bees in preference to new, white combs. I had none filled the past season, however.

Portage Co., Ohio. L. G. Reed.

Not a Satisfactory Season.

The past year was not a satisfactory as last year, for bee-keeping, but we are not discouraged yet. I had 40 colonies in early spring, but only two swarms, and harvested 800 pounds of extracted honey, white clover and buckwheat. The shortness of the crop of clover was due to the severe drouth that lasted nearly two months. At the end of the month of June it began to rain at a pretty good rate, which resulted in the clover ceasing to blossom, and growing instead.

I have put into the cellar 41 colonies, with good, heavy stores. The winter is not hard so far.

I like the American Bee Journal as much as ever, and propose to subscribe for it as long as it continues to be publisht at the same high standard. Jos. Beaudry.

Prov. of Quebec, Canada, Dec. 23, 1899.

"Taking Care" of Bees and Honey.

This has been a poor season in this locality. Some of my neighbors got hardly any honey. Bee-keeping is about 40 years behind the times in this neighborhood. No one takes any bee-literature of any kind. They say there were bees before there were books, but it did not work that way with me, for I commenced the bee-business in 1896 with one colony, and increast to eight. These were the first bees I ever handled, so that winter I lost 6 colonies. The two remaining I increast to eight, and subscribed for the Bee Journal. I now have 48 colonies in good condition. There is nothing I like to take care of so well as bees, with the exception of honey, which I can take care of at the rate of about 3 pounds a day.

Nelson S. Barbour.

Wadena Co., Minn., Dec. 21, 1899.

Didn't Pay Expenses.

Bees did not pay expenses this year, but are in good condition for next year. I hope to have better success with them next season. W. Bishop.

Otero Co., Colo., Dec. 23, 1899.

Had Hard Luck in Texas.

Some of us Texas fellows have had hard luck this year—not much honey and a great many bees dead. I have now 75 colonies in fine condition for winter, and with the rain we have had, and horsemint now up and growing, we look for a better honey-yield in 1900. Some of my neighbors who keep a few colonies of black bees have lost all they had. Of course, I can't get along without the American Bee Journal.

J. A. Rosson.

Ellis Co., Tex., Dec. 28, 1899.

Having Abundant Rain.

I was over at the old place a week ago and took a look thru some of the hives. I found that they were not as well stockt with winter stores as I could have wisht. Some of them were on the point of starving. I fed them as far as I could during the limited time at my disposal.

Tho this has not been a cold winter, still it is being a hard one on the bees. This is owing mostly to the fact that there were few fall flowers, and to the early and continuous rains which have kept back certain flowers that yield nectar during November and December. The rains in this portion of the State have been very abundant, and there is every assurance that there will be a heavy rainfall before the coming spring is over. Those who have bees next summer will get large quantities of honey, I feel sure.

I have noticed by telegraphic reports from the Southern portion of the State, that the rainfall there, while far from being as plentiful as that of the more northern portion, is very assuring. This I am glad to know, as it will help to make more prosperous times in the State. The rainfall here has been 15 inches—more than we had the whole of last season, I believe.

The past few days here have been cold and frosty, yet I have not been able to find in my rounds thru the city, one tender plant injured by the cold. Heliotropes, potato-vines and such other tender plants have escaped, as intimated, I presume, tho we shall have a heavy frost about the last day of the year, that will get in its work on tender vegetation. Just think of great big beds of calla lilies in full bloom at this time of the year! They are as common as weeds here. W. A. Pryal.

Alameda Co., Calif., Dec. 21, 1899.

A Beginner's Report.

This was my first season with bees. I have 21 colonies of hybrids and Italians. I bought 15 colonies and a lot of hives, etc., in June, and brought them home 18 miles on a wagon without springs, over a rough road, on Jan. 28. I handled them as well as I knew how, but lost one colony by being smothered. The combs broke down. The bees stored very little surplus honey this year. They have plenty to winter on and appear to be in good condition now. I take great pleasure in workiog with bees. I wish to sell bees as well as honey if I make anything like a success of the business.

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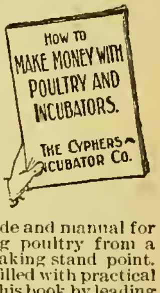

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N. E. Ohio, N. W. Pa.—The Northeastern Ohio and N. W. Pennsylvania Bee-Keepers' Association will hold their 19th annual convention at Andover, Ohio, in Chapman's Hall, Jan. 17 and 18, 1900. Boarding rates of $1.00 per day have been secured for those attending the convention. All bee-keepers invited. Send to the Secretary for programs.
Franklin, Pa. ED JOLLEY, Sec.

California.—The tenth annual convention of the California State Bee-Keepers' Association will be held in the Chamber of Commerce, at Los Angeles, Feb. 21 and 22, 1900. It will be called to order at 1:30 p.m., Feb. 21. At this time the railroads will sell round-trip tickets to Los Angeles and return for one and one-third fare, on account of the Industrial, Mining, and Citrus Exposition, which will be held in Los Angeles. Tickets good for 10 days. Let every bee-keeper bring some hive, tool or experience that he has found valuable, and we will have a good convention. J. F. McINTYRE, Sec.
Sespe, Calif.

Minnesota.—The Southern Minnesota Bee-Keepers' Association will meet in Winona, Jan. 23 and 24, 1900. E. B. HUFFMAN, Pres.
Homer, Minn.

Wisconsin.—There will be a joint convention of all Wisconsin bee-keepers' societies at the 16th annual meeting of the State Bee-Keepers' Association, Feb. 7 and 8, 1900, in the State Capitol, at Madison, Wis. Many prominent bee-keepers will be there and take part.

Excursion rates of a fare and one-third for the round-trip, for railroad tickets purchast in the State, for over 50 cents each. Be sure to bring a certificate of each ticket purchast so it can be signed Feb. 8, in Madison, and entitle the holder to a third fare return.

The State Horticultural and State Cheese-makers' Associations will meet on the same date in the Capitol.

Don't forget the date—Feb. 7 and 8. It will pay you to attend. N. E. FRANCE, Sec.
Platteville, Wis.

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The book is about to appear and on its title page in collaboration as authors are found the names of that most popular of all writers, IAN MACLAREN (Rev. John Watson), together with H. M. WHARTON, D.D., the great Evangelist, and J. WILLIAM BUEL, Ph.D., one of the most prominent and popular writers on Biblical subjects. A MASTERPIECE INDEED must be the book which calls to its creation such a combination of unmatchable talents. IT IS A MASTERPIECE—and it is good news we bring our readers when we tell them that after the most persistent endeavor and the most industrious and earnest negotiations with the Publishers, this paper is one of a syndicate which has secured the entire first edition for distribution among their subscribers, not as a means of winning profits, but to encourage the people to become regular readers, because of the unusual privileges which are offered regular patrons.

The book is entitled "THE GOLDEN MORNING," and while it was intended to be a $5.00 book, and has everything about it—authorship, illustrations, paper, printing and binding—to warrant that price, we have, after many objections and refusals, made terms whereby WE ARE IN POSITION TO OFFER IT TO OUR READERS AT A GREAT REDUCTION. It contains nearly 800 pages and over 500 superb illustrations. It is printed with clear type on coated paper, and is bound in beautifully illuminated covers, with gold and colored stamping.

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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Dec. 12.—We quote best white comb at 15c; an occasional small lot of fancy sells at 16c; off grades of white, 12@14c; ambers, 10@12c. Extracted, 8@9c for fancy white; 7@8c for amber; 6@7c for dark grades.

Receipts are larger and the demand is not as good as it has been; most of the retailers have laid in a supply to carry them over the Christmas time. R. A. BURNETT & Co.

CINCINNATI, Dec. 7.—There is a good demand for all kinds of extracted honey. White clover and basswood sell at 8@8½c; amber and Southern, 6@7c, according to quality and package. Fancy comb honey in no-drip shipping-cases sells at 15@16c; darker grades hard to sell at any price. Beeswax, 26c. C. H. W. WEBER,
Successor to Chas. F. Muth & Son and A. Muth

KANSAS CITY, Dec. 9.—We quote No. 1 white comb, 13½@14c; No. 2, 13@13½c; No. 1 amber, 13@13½c; No. 2, 12@13c. Extracted, white, 7½@8c; amber, 7@7½c; dark, 5½@6c. Beeswax, 20@22c. C. C. CLEMONS & Co.

BUFFALO, Jan. 5.—Market bare of fancy white one-pound comb honey, and selling at 15@16c; fair to good, 12@14c; buckwheat, dark, poor, etc., 8@10c. Fancy pure beeswax, 28@30c.
BATTERSON & Co.

NEW YORK Dec. 10.—Demand is very good for all grades of comb honey. Receipts are somewhat light and not up to former years. We quote:

Fancy white, 15 cents; No. 1, white, 13@14c; amber, 11@12c; and buckwheat, 9@11c, as to quality. Extracted remains firm at following prices: California white, 8½c; light amber, 8c; white clover and basswood, 8c; amber, 7½c. Very little trade for extracted buckwheat as yet. Southern, fancy, 7½c per pound: other grades, as to quality, from 70c to 75c gallon. Beeswax quiet at 26@27c. HILDRETH & SEGELKEN.

SAN FRANCISCO, Dec. 20.—White comb, 11½@12½c; amber, 8@10c. Extracted, white, 7½@8c. light amber, 7@7½c; amber, 5@5½c; Beeswax, 26@27c.

There is no chance for extensive trading in this commodity at present, supplies having been reduced to small proportions. A sailing vessel clearing the past week for England carried 125 cases extracted. Prospects for coming season's yield are considered very good for this early date.

CLEVELAND, Dec. 1.—Fancy white, 16@17c; No. 1 white, 15@16c; No. 1 amber, 13@14c; No. 2 amber, 12@13c; buckwheat. 9@10c. White extracted, 8@9c. A. B. WILLIAMS & Co.

BOSTON, Dec. 8.—We quote as follows: Fancy white, 16c; A No. 1, 15c; No. 1, 13@14c; buckwheat will not sell in this city. Extracted, light amber, 7@8c.

There is very little now to report in the line of our honey market. The retail trade are loath to pay the higher prices and are buying in a very small way, still the demand is fully equal to the supply. BLAKE, SCOTT & LEE.

ALBANY, Dec. 10.—We quote: Fancy white comb, 15c; No. 1 white, 13@14c; mixt, 11@13c; buckwheat, 10@11c. Extracted, white, 8@9c; mixt, 6½@7c; dark, 6. Beeswax, 26@28c.
MACDOUGAL & Co.
Successors to Chas. McCulloch & Co.

OMAHA, Jan. 4.—Prices remain unchanged. Fancy white is still moving slowly at 14@14½c. Extracted, white, 8½c. Now that holiday trade is over and dealers have taken their inventory, they soon will be thinking of replenishing their stock and more lively trade is anticipated in the near future, but no material advance is lookt for during January. PEYCKE BROS.

DETROIT, Dec. 11.—Fancy white, 15@16c; No. 1, white, 14@15c; dark grades, 10@12c. Demand good and supply light. No extracted in market. White would sell for 8@8½c. Beeswax, 23@24c.
M. H. HUNT & SON.

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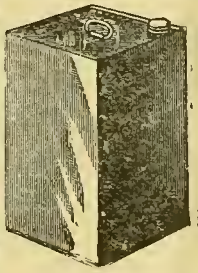

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GEORGE W. YORK, Editor.

AMERICAN BEE JOURNAL.

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DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS.

40th YEAR. CHICAGO, ILL., JANUARY 18, 1900. No. 3.

CONTRIBUTED ARTICLES

Success with the Nucleus Method of Increase.

BY FRANK L. REHN.

LAST spring I had six colonies of bees, all on movable frames, eight to the hive, and desiring to increase as rapidly as possible, and yet so as not to impoverish the parent colony, it became a question to me as to what method would be best to adopt.

This being my first year in handling bees, it became necessary in order to succeed to thoroly understand the manner of the natural increase of bees; after a close study of the bee, and a more close scrutiny of the bees on the frames at very near intervals, I determined to proceed; so, accordingly, on May 3 I set four colonies apart as those from which I would make my nuclei; the other two colonies I called into service later in a different way.

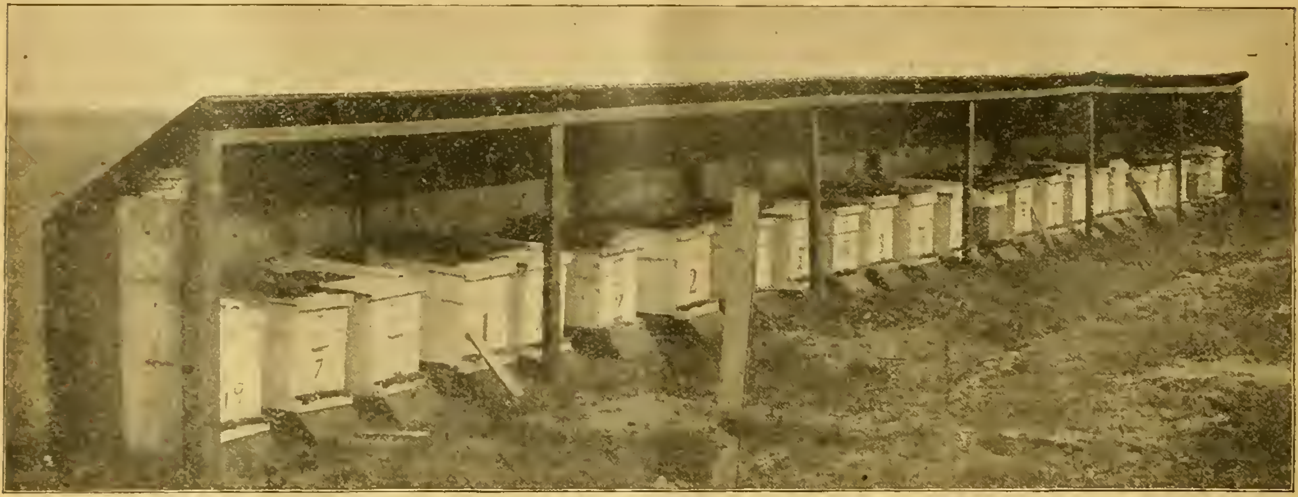
On May 3 I had but time to make two nuclei; on May 6 I made three more; May 13, 7; June 13, 6; Aug. 2, another; and Aug. 15, still another—making 20 nuclei from the four, and still leaving sufficient in each of the original four to recover, gather, and breed.

In making the nuclei I would have the new hives all prepared before I would open the parent colony, thus: I first nailed the body with two long nails just tight enough on the side to hold to the bottom-board temporarily; plug the entrance with fresh grass as tight as possible, and nail a strip of wood across so that not a bee could get out; and place a division-board and two frames with ¼ sheet of foundation in the hive. The hives being thus ready, and having the enamel-cloth and cover ready, I proceed.

Smoke the parent hive, and after a few minutes lift the cover, and remove the division-board; look for the queen, and remove the frame with her on it, and place it in an empty hive for the time being; then proceed to look for material for a nuclei.

I take a frame containing at least ½-frame of honey with adhering bees, and place it in the hive I wish the nucleus to occupy; then look at other frames until I find eggs that are under three days old—in other words, eggs that are standing straight up on end. This frame and clinging bees are put into the same hive alongside of the one with honey; then draw the two empty frames with foundation up to the bees, put on a cloth and cover, and locate it where I wish the hive to remain.

Summer View of the Apiary of Mr. Frank L. Rehn, of Delaware Co., Pennsylvania.



Winter View of the Apiary of Mr. Frank L. Rehn.

These operations must be done as rapidly as can be, so as to keep all bees that are possible on the frames before the effect of the smoke has worn off.

In this way I proceed until I secure all I want at that time. In some cases, where I found sufficient honey and eggs in one frame, and had sufficient clinging bees, I used that alone, or shook a few bees from another frame.

I replaced the frame with the queen in the old hive, and gave it several frames with foundation, replaced the cover, and let it alone for about a week or ten days, when I again went thru the same process.

There are three cardinal points to make this a success, I find, viz.: First, that the eggs must be under three days old; second, the bees must not be releast until after nightfall of the fifth day after dividing, and then only allow an entrance of about one or two inches; and third, that the cover must not be removed, or frames disturbed, until the eighth day after dividing.

On the eighth day I draw the two side-nails so I can raise the body from the bottom-board, and clear out the dead bees and examine the frames to see the number of queen-cells the bees have started and capt while closed up. In every case I have found at least six, and have had them in numbers varying up to 30 on a single frame. When I found quite a few, I would cut out some, and make more nuclei, and insert a couple of cells between the frames, and these queens would hatch about the same time.

The queens I reared in this way I have found to be large and prolific, and have yet to find the first one that I can say is "no good."

Every week or ten days I would go to the nucleus hives, go over them, and give them a gentle smoking to inform them I would prefer they would load up; raise the hive from the bottom-board, brush off any dead bees, and watch closely for any indications of moth or refuse; replace the board, examine the frames, and as soon as I see the queen is mated and laying nicely, I close down and mark the hive.

Then I go to the other two hives that I had reserved at the beginning, and take from them all the frames that contain any quantity of sealed brood; brush all the bees off, put them in an empty hive temporarily, and put frames with foundation in their place, putting them in alternately, as far as possible. There being all the bees and queen left behind, they take hold of the foundation immediately, and in a few days they have a perfectly full frame of comb filled with eggs.

The frames of sealed brood I give to every nucleus that I think would be better by a little encouragement, and in a few days it has a great quantity of young bees, which is very stimulating to the health of each young colony.

This process I practiced several times during the season. Every time I gave a frame of sealed brood, if I thought the colony was growing well in population, I would give one or two frames of ¼-sheet of foundation, but being careful in every case to see that I did not scatter the bees over too many combs, and always keeping the combs on the east side of the hive, to warm up as early in the day as possible.

From one of the four original colonies used I made 12 nuclei the past season; and later, at three different times during the summer, I took two frames of sealed brood (without bees)—that is, six frames in all—and in September I also took six frames of honey and gave to nuclei. On Oct. 15, when I packt this hive, it had eight frames exceedingly full of honey, bees, and brood. This queen is a leather-colored one, very long, and pure in color clear to the tip, but is mated with a hybrid drone; her bees have five bands, very plainly markt, but are somewhat cross in disposition, tho great gatherers and unexcelled breeders.

In every case each colony of bees gathered sufficient stores for winter, and when I packt them, the middle of October, all had a great deal of brood and bees, and all had eight frames.

Next year I shall change my method a little by rearing and using virgin queens, inserting each in a nucleus. I do not intend to limit myself in number, as I believe nobody knows until tried how great a number one can create from a single colony.

I herewith show a photograph I made of my apiary on the summer stands, and another of it in winter quarters, the latter showing all but two of the hives under one shelter. The back of the shelter is to the north.

Delaware Co., Pa., Nov. 27, 1890.

Qualifications of the Genuine Bee-Keeper.

BY G. M. DOOLITTLE.

As the labors of the year 1899 have drawn to a close, and the long winter evenings of the first of the year 1900 are upon us, I thought that I might be excused if I were to say a few words on what I consider the duties of the apiarist along the line of spending these evenings in such a way that we may be gaining in knowledge regarding the pursuit we have chosen in life.

Having once chosen a pursuit in life, it becomes all to look after that pursuit with all diligence. In no business engagement is this more imperative than when the culture of the honey-bee is to be the occupation; and in no way can this be done to better advantage than in reading the bee-literature of the day. How often have I tried to get certain persons who were about to embark in bee-keeping by way of purchasing a few colonies of bees, to take a bee-paper, or to send for a good book on bees, only to be met with certain excuses which went to show that the person addrest would not make a success with bees.

A man or woman who is not willing to put a few dollars into the bee-reading of to-day shows *by that very thing* that he or she will not make a success of it; for had they the right kind of love for the little busy bee they would devour all the reading on the subject which came in their way as eagerly as a hungry man eats a good dinner. It is just this hungering and thirsting after knowledge regarding the practical part of bee-keeping that insures success; and unless a person does so hunger and thirst after knowledge along some special line of the many industries of the world, he or she will never make a success at anything, except, perhaps, it may be their working by the day or month, serving some one else. It is *only* the person who *loves* a calling in life who succeeds by and thru such calling.

One of the reasons why there are so many "calamity howlers" in the world to-day is because there are so many who are more interested in loafing around and listening to idle gossip than they are in their chosen pursuit in life, and take more interest in a game of cards, chess or checkers, or hanging around the saloon or country store, than they do in studying on something which will lift them up morally and financially, or make them of real, practical use.

Besides the American Bee Journal take all the other bee-papers you possibly can; and, first, and before any of these, be sure to procure at least one good book on bees. Why I say procure the book, or books, *first*, is, that no man or woman is ready to understand the bee-papers until they are in a certain measure acquainted with the first or elementary principles of our pursuit. There is scarcely a week passes but what I receive lists of questions which I know would never have been askt had the writers a good book on bees, and had they read that book understandingly. From these books and papers the mind is stored with useful knowledge, which can be put in practical use as soon as the active bee-season of 1900 opens.

When I first thought of bee-keeping I procured the "Bee-Keepers' Text-Book," by King, and "Quinby's Mysteries of Bee-Keeping." As soon as I had read these I subscribed for the American Bee Journal and The Bee-Keepers' Journal, the two latter being all the papers there were devoted to bees at that time. All of this before I had a single colony of bees, and I was so interested in the books that I had them as familiar as a nursery rhyme. This, together with what I found in the bee-papers, placed me where I was ready to do something somewhat intelligently, and I procured my first two colonies in the spring of 1869.

That season was the poorest season I ever knew, but I recorded 12 pounds of honey and one swarm from the two old colonies, so I had three in the fall; but I had to feed some 40 pounds of sugar to give them stores enough for winter, which I did, as the books told me the way to do it. And that the readers may see where the price of honey once went, I will say I was offered 50 cents a pound for that 12 pounds of honey, right at my door.

I read and studied bees from all and everything I could find during all of my wakeful hours, and dreamed on them when asleep, and the reader will pardon me for saying that I am still doing the same thing, having greater zest in bee-keeping, and in raising it to a still higher standard, than in anything else.

When I read anything which I consider new and superior to what I am now using, I jot the name of the paper, number and page where it is to be found, on a piece of section, then I put it in the "pew" holding all such things which are appropriate to a certain month, having 12 of these "pews," and then when the month comes around I take out all there is in there, spread them out, and thus I have all of these valuable things before me.

Yea, more. When I am at work preparing hives, sections, queen-cages, etc., during the winter, or with the bees during the summer, my thoughts are always "running" on the subject of bee-keeping, and when something new strikes me, which thought seems of value, I "whip" out my piece of section and pencil, jot it down, and as soon as I arrive at the "row of pews," in it goes at the proper place, to spread out before me at the proper time.

Yes, further: Some of my dreams are jotted down; and allow me to say that one of the most useful things found in our queen-rearing of the present was "dreamed out," and put in practice as soon as I was awake, namely, the queen-cell protector. To be sure, it did not come in its perfection, as Mr. West now has it, but the thing in its crude form came in something seen in a dream by a bee-keeper having the bee-fever, and that fever has been raging now over 30 years.

In reading over the above, I see there is a good deal of Doolittle in it, and I beg the reader's pardon, but I really did not see how I could tell you just what I wanted to without giving some of my personal experience.

In conclusion, I wish to say in all kindness, if any person loves something else more than he does to study into bee-keeping, or does such study only as a sort of duty, let him be assured that he has mistaken his calling, and the sooner he leaves it and goes to that which at all times gives him pleasure the better off he will be in this world's goods, and the better it will be for the world.

If there are any who read this, who have no love for anything except to sit around all winter "whittling a stick," whirling the time away in that way, let me say to them that the world would have been better off without them, and that these lines were not intended for them, unless they can turn over a "new leaf." ▭

CONVENTION PROCEEDINGS

Report of the Illinois State Bee-Keepers' Convention.

The Illinois State Bee-Keepers' Association held its annual convention at the State House in Springfield, Dec. 26 and 27, 1899.

As some of the trains were late getting in, the forenoon of the first day was spent in getting acquainted with new members, and in a good, social time. At 1:30 p.m. the meeting was called to order by Pres. Smith, who addrest the meeting in a few well-chosen words. The secretary read the minutes of the last meeting, which were then approved. The treasurer's report showed that on account of our funds largely going to subscriptions for the American Bee Journal, our treasury did not become very flush.

The committee on legislation reported at length, reciting the ill-treatment they got before the House Appropriation Committee, when asking for a foul-brood law. Chairman Curtiss and Dr. Vincent, with only a few others, were our friends. Our Bill past the Senate without opposition.

FOUL BROOD.

The subject of foul brood was then discust.

Mr. Black—If I had it among my bees it seems to me I would want to burn them, but I don't know how infectious it is.

Mr. Gastman—My bees had foul brood a number of years ago, and I would feel like burning them—hives and all—if they should get it again.

QUESTION—Can foul brood be brought thru the introducing of queens?

J. Q. Smith—In two cases that I know of it came in that way, but the queens came in 3-frame nuclei. I could not say as to their bringing it if they had come in cages thru the mail.

The following resolution was adopted:

Resolved, That it is the sense of this meeting that each member of the Association use his greatest influence with his candidates for the next legislature, to secure the passage of a foul-brood law.

A paper written by Dr. C. C. Miller was then read, on this subject:

Bee-Keeping as a Sole Business.

Now and again the questions come up, "How much profit is there in bees?" "Can one make a good thing of it with bees alone?" "Would you advise me to make a sole business of bee-keeping?" etc.

To meet such questions fairly and squarely is not always an easy matter. There are generally two sides to a question—sometimes more than two. Let us look at some of the sides of these questions.

John Smith got an average of 475 pounds of honey from each colony of bees in the year 1897. It is said one man can take care of 100 colonies without help. If he should get 475 pounds from each of a hundred colonies, and if it should be sold for 9 cents a pound, that would make $4,275 a year, and in ten years that would amount to the snug little sum of $42,750, the interest of which might support him for the rest of his life without work.

That looks very nice on paper, but it may be well to mention some modifying items. John didn't get that amount of honey every year. The two preceding years he got no surplus, and some years his bees not only gather no surplus, but have to be fed to keep them from starvation. Take one year with another, and he can get no 9 cents a pound for extracted honey. He has kept only a small number of colonies. With 100 colonies there would be a slump in his average yield. Few locations have such honey-yielding flora, and it is not likely that in his lifetime will John ever again meet with conditions so favorable as in the year mentioned.

It is not an uncommon thing to hear this or that man say that nothing on his farm has paid better for the amount invested than his bees. He will give plain figures for it to show that $50 invested in 10 colonies of bees netted him more clean money than twice the amount invested in cattle. That being the case you would expect him to give up to a large extent the keeping of cattle and invest heavily in bees. As a matter of fact, in nine cases out of ten you will find little or no increase in his bee-business, if indeed he has not gone out of the business altogether.

The man who holds the highest record for getting the most honey from one colony, of any man in the United States (1,000 pounds), has never been reported as having gone largely into the business, and it would be nothing so very surprising to hear that he now has very little to do with bees.

One who thinks of making a sole business of bee-keeping should understand that the element of uncertainty cuts a large figure in the case. Added to other items of uncertainty is the one that no bee-keeper can ever feel secure in the tenure of his pasturage. He may have a thousand head of cattle with sufficient acreage to support them, and feel perfectly secure that no one will trespass upon his pasturage. But he has not the least assurance that he can hold undisputed possession of the pasturage for his bees for a single year. There is no way by which he can prevent another man, or ten of them, from occupying the same territory that he does. Whether legislation could be secured that would make him as secure of pasturage for his bees as he is for his cattle is hardly a question just now to be considered. Even if legislators were favorable to it, bee-keepers would none of it. At least they would not when such a thing was talkt about some years ago. It was admitted by all that when a man had prior possession of a certain locality for bee-keeping, no man had the moral right to intrude upon that ground if it was already fully stockt. But by some strange process of reasoning it was thought wrong to establish as a legal right that which was already a moral right. As if one should say no man had a moral right to steal, but there should be no legislation against stealing.

All things considered, the man who makes money his god will do well to steer clear of bee-keeping. But there are those who do not consider money the sole aim. To a man with a taste for the business, and a good location for it; who loves to get close to Nature, and have a life of enjoyment in the present; who loves health, and hard work in the open air, bee-keeping holds out inducements hard to be met with elsewhere. In any case, if no drop of honey should be secured, there should be enough bees in the land to assure proper fertilization for all the flowers that depend chiefly upon bees. C. C. MILLER.

Mr. Gastman—Is there any place in Illinois where you can depend upon a crop of honey every year?

Mr. Hyde—On the Mississippi River I have had about one failure in 8 or 10 years.

Mr. Black—I fail oftener than that.

Mr. Becker—I do not believe there is a place in Illinois where you can depend upon a good crop every year.

QUESTION-BOX.

Miss Coulter—From what flowers do bees get the most of their honey?

Mr. Gastman—From sweet clover.

Mr. Becker—In different localities, from different flowers.

Miss Kennedy—I got 2,200 pounds of white clover honey the past season. Two years ago I got 3,000 sections filled.

Mr. Gastman—Do people generally like basswood honey?

Mr. Black—Not at first taste. If basswood honey is allowed to drain as it candies, it will get rid of its unpleasant taste.

Miss Coulter—How do you know if the bees have honey enough to carry them thru the winter?

Twenty to 25 pounds was answered.

Mr. Gastman—How can I keep my bees from swarming when I am away from home?

Several advised clipping the queens; others to divide the colonies.

Mr. Becker—Do bees gather honey from red clover?

Mr. Black—I saw bees this year working as strong on red clover as I ever saw them working on white clover.

The premium list committee for last year made a report, which was approved.

On motion of Mr. Black, the committee was continued for the next year—namely, the executive committee, composed of the president, secretary and treasurer.

The convention then adjourned till 9:30 a.m. the next day, with no night session, so that members could attend the meeting of the State Horticultural Society.

SECOND DAY.

At 9:30 a.m., Wednesday, Dec. 27, the meeting was called to order, with Pres. Smith in the chair.

A paper by Mr. S. N. Black was read, on

Wintering Bees.

Upon the subject of wintering bees I hope to learn rather than impart information. Tho I have had over 50 years' experience, there are some results that I can not account for.

The first requisite for successful wintering is sufficient well-ripened stores; and what may be enough for one winter may not suffice for the next.

The next, and of great importance, is ventilation, and I do not think it makes much difference how it is obtained, whether from bottom or top.

Dryness comes next in importance, and it would seem entirely essential were it not for the fact that some very wet winters, when the combs got very moldy, the bees came out very strong, and built up unusually soon.

Shall they be kept in the cellar or out-of-doors? Perhaps I have not had enough experience with in-door wintering to speak positively, having wintered bees in the cellar but four or five winters. My experience is in favor of out-door wintering. In the cellar the bees always consumed less honey than out-of-doors, but used much more after they were put upon their summer stands, and did not build up so rapidly in the spring as those wintered out-of-doors. However, had I a cellar or a room that I could keep just below the freezing-point, I would always use it, from the fact that I had one winter's trial of such temperature with a wonderful good result.

I had about 80 colonies in a pile, with carpet over the top, and the thermometer about 28 degrees for 90 days. The bees kept very quiet, and there were fewer dead bees than I ever saw, a smaller consumption of honey, and the bees built up very quickly, and very early. I do not know of any practical way that a temperature of 28 degrees can be maintained one season with another.

Then what kind of hives, or fixing, is the best? The chaff hive I have not used, and dislike to condemn that which I have not tried; but they are costly, bulky, and have many disadvantages; and the result does not seem to warrant their use. The experience of many years leads me to think them unnecessary.

With single-walled hives, with proper stores and ventilation, I have been so successful that for the present at least I shall winter bees on the summer stands, being careful to keep the entrance free, turning back one end of the painted cloth above the frames, covering the opening with burlap folded; or, better, with something woolen, leaning a broad board in front of the hive to keep the sun from the front on cold, sunny days. I prefer the hives to front south. I then leave the bees to their fate, with confidence that my loss will be small. So prepared, my loss has been small, not 5 percent. Three times since I have been keeping bees my loss has been heavy—one heavy loss I attributed to poor food, once to long, extreme cold, and once I could give no reason. Doubtless some other localities might require other treatment.

Were it not that long papers are not good for a convention, I would go into further details, such as, Can we use any absorbents to aid in keeping hives dry? etc.

S. N. BLACK.

Mr. Black—How can you keep moisture out of the hives?

Mr. Becker—I put a lot of large corn-cobs into the oven and dry them thoroly. Place two or three above the brood-frames and over them burlap. It seems to attract the bees to the space, and they get from frame to frame better than otherwise.

Geo. Poindexter—I have been in the habit of wintering bees in the cellar; I had them too closely confined, and came nearly losing them. Last winter I packt straw in the upper part of the hives above ducking, with good results. I have packt the same way this winter, leaving the ducking lapt back at the edges.

Mr. Becker—When we have an abundance of honey in the fall, and plenty of young bees, the loss will be small.

Pres. Smith—With hives not painted the bees winter better, because the sun dries the moisture out of the boards.

Mr. Black—I had a hive of bees knockt over on its side by a cow, one evening when the mercury was 30 degrees below zero; the bees lived and were all right the next day.

Mr. Hyde—Out of 125 colonies I lost five by cold weather. Some had 25 or 30 pounds of honey after they were dead. I have known bees to live all winter in a hive lying on its side.

Mr. Black—I think Spanish-needle honey is as good as any for bees to winter on.

The committee on premium list reported a revised list, which was adopted.

The election of officers for the ensuing year resulted as follows:

President—J. Q. Smith; vice-presidents—1st, S. N. Black; 2nd, Geo. Poindexter; 3rd, W. H. Hyde; 4th, Miss Bird C. Coulter; 5th, Miss L. C. Kennedy; secretary—Jas. A. Stone, Bradfordton; treasurer, Chas. Becker.

A paper by Mr. G. M. Doolittle, of New York State, was read, on

Burr-Combs or No Burr-Combs on Top-Bars.

Your secretary has askt me for a paper to be read at your meeting. I don't believe in long, dry, exhaustive papers to be read at a bee-keepers' convention. Do you? Right here is a chance for a discussion among your members, and for them to let the bee-keeping world know what they think in the matter.

I believe that the paper to be read at a bee-convention is not the one that thinks for you, but the one that makes *you* think. Is my belief right? If you have any lazy, go-as-you-please members, here is a chance for them to show that Doolittle's belief is wrong.

But to bee-keeping more direct. We have been told of late that burr-combs on top of the brood-frames are a thing not to be tolerated, and thick top-bars for the frames are made and advocated to-day. Is this a move in the right direction? I hope you will not all stampede en masse in one direction, for if you do no light will be obtained. Perhaps Dr. Miller will suggest an "I don't know," if the rest of you are sure.

During the past poor season I had several colonies which did not have a single burr-comb on the top-bars of their frames—or "ladders," as I prefer to call such burr-combs—while the majority of the colonies had all the way from one to 15 ladders on top of the frames, when the surplus arrangement, filled with sections, was placed on the hives. I always leave these ladders on the tops of the frames to the amount above named (these ladders save using a Hill's device or sticks over the frames in winter), but remove all from the bottoms of the supers when they are taken from the hives. The result was that the colonies in hives having no ladders gave an average result of nearly 10 sections less than did those having them, and I have had experience very similar before. Did the ladders, by inducing the bees to enter the sections more quickly, cause the result? Here is a chance for some good, deep thinking and experimenting.

If the ladders were not the cause, are there any suggestions to be made as to the same? Suggestions in order.

If the ladders were the cause, then they were to my benefit of not far from $1.20 per colony for those which had them, as the 10 sections averaged me 12 cents each. Now, which will pay the best, thick top-bars and no burr-combs or ladders, or $1.20 per colony with the burr-comb "nuisance," as it is called?

Making my best bow, I retire. G. M. Doolittle.

Mr. DeLong (of Nebraska)—If the space is made smaller, there will be but little bridging. They need the bridging to climb over the space; take away the space and the bridging will not occur.

Mr. Becker—I think they make the most bridging when they are gathering the most honey.

Mr. Black—I have seen them, when they were getting honey rapidly, wedge it in at the ends of the brood-frames, and in every place where the least space occurred.

The secretary askt the opinion of the convention as to what they thought of tacking thin strips of wood on the tops of the brood-frames to take up the space, the same as we suppose the thick top-bars do it. He had thought of trying it. But as none had tried it, there was no reply.

A resolution of thanks to those who so kindly furnisht valuable papers was read and adopted.

Adjourned *sine die*. Jas. A. Stone, *Sec.*

Queenie Jeanette is the title of a pretty song in sheet music size, written by J. C. Wallenmeyer, a musical bee-keeper. The regular price is 40 cents, but to close out the copies we have left, we will mail them at 20 cents each, as long as they last. Better order at once, if you want a copy of this song.

THE AFTERTHOUGHT

The "Old Reliable" seen thru New and Unreliable Glasses.
By E. E. HASTY, Richards, Ohio.

DISPOSING OF INFERIOR HONEY AT HOME.

I wish to think out loud a little on one line of an editorial note found on page 777 (1899). "Sell inferior kinds at home, or give them away." 'Spects that depends upon which market one leans most upon, and cares most about. The home market is easier cultivated, and far easier to hold against all comers, than the city market. A really lively and first-class home trade can not be kept up permanently if much poor honey is sold—not even if you tell them it is poor, and only accept half price for it. No man having drunk ripe old wine straightway desireth the raw, new article. And no kids eating good syrup (such as mammy makes on the stove, and perfumes the house with when she boils it over, as she mostly does), no such happy kids straightway desire poor honey. Poor honey is a desperate problem. Doubtful if it has any legitimate field, except to be given back to the bees in warm spring weather. I have sometimes taken pains to give poor honey to families unlikely to buy; but something within me protested pretty loudly against it. Training up some of the best men and women, about to be, to consider honey rather poor stuff, and to be poor honey customers. Of course, all this does not apply to those samples of honey which are poor merely in *looks*.

SMALL TREES VS. BIG TREES IN THE APIARY.

The apiary of Mr. Page, which opens out No. 49 (1899), is a fair representative of a large class of nice-looking, well-kept, well-painted apiaries with small trees sprinkled about—makes those of us who are curst with lots of big trees feel inclined to quarrel with our "lot."

QUEENS CHEAPER NOW THAN SOME YEARS AGO.

Twenty-five dollars for a queen, and $3.75 to the express company for bringing her! Surely, we have made a trifle of progress in cheapness since that day "some years ago" which Mr. Didwell tells of on page 770.

WHITE CLOVER HONEY BETTER FARTHER NORTH.

Pres. Whitcomb is evidently on the track of the truth in explaining that white clover honey is better the farther North we go (provided we keep down in well-settled latitudes, that is), while heartsease is rather inclined to be the other way. As a general rule, I think we may expect every plant to yield better, both in quality and quantity, where it *flourishes* best. And most of the leading honey-plants will grow, if a little pains is taken with them, where they will scarcely yield nectar enough to attract a bee at all. For instance, almost any reader of this journal can have a patch of alfalfa in his garden, if he wants to; but comparatively few of them would ever see it visited eagerly by bees. Page 771.

HANDY RULE TO DETECT QUEENLESSNESS.

Handy rule from Mr. Coggshall. If there are queen-cups in the super, and they are *polisht out*, the colony below is queenless. Page 771.

CURE FOR INKY DROPS FROM SMOKER.

The cure for inky drops has at last been hammered out pretty nearly to perfection. ("Iron sharpeneth iron; so a man sharpeneth the countenance of his friend.") But still I'll mix in once more, as one important fact in the matter has not been clearly mentioned, so far as I have noticed. Sound wood, altho it will let much of its moisture go without resistance, can not be made to part with all its moisture—not even nearly all—by any process which the apiarist is likely to use. I *think* (without having positive evidence at hand) that rotten wood of the soft and whitish fiber sort is readily dried to pretty nearly absolute dryness. Probably few or no kinds of rotten wood hold onto moisture with the desperate grip characteristic of sound wood. So the points are, stop most of the condensation by a warm nozzle, cut off the needless supply of watery vapor by using dry fuel, and look a little out for those fuels which can not be dried except in part. Page 776.

LIKE A WOMAN'S LAST WORD—BUT SENSIBLE.

It may sound a little like a woman's last word, but all the same it's a sensible word, where the editor says, "Don't use barrels unless you know that *you* can use them without leaking." Page 776.

COLOR CARDS FOR GRADING HONEY.

I hardly know where I stand as to the proposed color cards to grade honey by (page 777). My practice has all along been to look thru honey to grade it; yet I am aware that strong objections can be made. Between a greasy-looking section with the cappings touching the honey—said honey being white—and a section with snow-white capping and deep air-space over quite dark honey, I strongly suspect a majority of customers would choose the latter, as more ornamental and just as good to the taste.

ASTER AS A HONEY-PLANT.

A botanist would be apt to smile audibly at Mr. Schmidt's fear that folks may think there are two kinds of aster, when really there is but one. The flora I use describes *forty-one* species, not counting those of the Gulf region and Pacific coast, either. The picture is very life-like, and the species it shows is the leading one here, at Ohio's north line, just as he finds it to be at the southern end of the State. Something I have read in the past makes me think it is still better in Tennessee—and a material addition to the honey-resources there—as here it is not. Bees are only occasionally seen on it here; and the amount of their gatherings from it never totals much, I think. And I am just illiberal enough to suggest that, even down in Hamilton County, that strong and peculiar smell he notices at the hives comes from some entirely different plant. Page 785.

RETARDING FOUL BROOD WITH NAPHTHALENE.

Comrade Dudley has a brilliant plan to *retard* foul brood by vapor of naphthalene until the apiarist can cure it at his leisure and convenience. Prof. Cook, as it seems on page 786, thinks the vapor would have to be strong enough to drive the bees out to do it. Apparently there is a bad misprint in that article. As 33 to 1,000 is not "one in 3,000," presumably the first figures should read 0.33.

THOSE QUEEN-EXCLUDERS.

Mr. H. H. Hyde seems to hate 'em bad—those queen-excluders—and so back into heathenish darkness he would have us all go. Page 786.

KEEPING MICE OUT OF STRAW MATS.

Mice kept out of a stack of straw mats in summer by plenty of ashes in each interval. Sir Mouse can't nibble in such a stack without getting his fur full of ashes, which would soon mean a sore skin—ergo he decamps directly. Quite an invention; altho the fuss of building the stack must be considerable. C. P. Dadant, page 787.

HIVING SWARMS WITH NUCLEI.

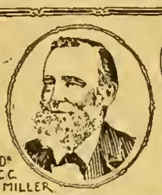
Dr. Miller "has the drop" on Mr. Doolittle as to four carefully observed cases of hiving swarms with nuclei without special precautions. All the same Mr. Doolittle's way is far the safest for the boys to follow, and the precautions are not burdensome. Page 788.

BOILING FOUL-BROODY HONEY.

Dr. Mason's saying, on page 789, that to *boil* foul-broody honey is sufficient, regardless of the time, marks very decidedly one of the phases of opinion on an important point. I think a majority of authorities incline to favor the long boiling. Quite possibly this divergence arises partly from the difference between laboratory work and out-in-the-yard work. Spores which a laboratory man could coax back into life may be that far gone that they are not dangerous in the yard.

BEES AS STRAWBERRY POLLENIZERS.

The pollenization of flowers by bees is all right. The importance of the thing both to the bee-man and to the general public is very great. We are doing just right to keep up considerable racket about it, lest folks forget somehow. Still, I must scold a little about that editorial quotation on page 793, where W. H. Jenkins thinks he lost several hundred dollars in strawberries for lack of bees—fruit mostly buttons instead of luscious berries. Now if Mr. Jenkins sees bees habitually on the strawberry bloom where he lives, I'll take back what I'm saying as far as he is concerned; but the probability is that he does not. It is quite rare. Our bees are wonderful creatures, but they are not equal to the task of doubling the strawberry crop by looking on from a distance. My impression is, that the pollen of the strawberry is not adhesive, but circulates with the wind freely, and that the insects that help in strawberry pollenization are mostly minute insects, which escape general observation by being so small. Certainly magnificent berries in great quantities are often produced—nay, usually produced—without a bee touching the patch at all.



QUESTIONS AND ANSWERS.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Stimulative Feeding in the Spring.

Next spring I would like to try stimulative feeding on two colonies of bees, and, when they are strong enough, divide them and buy a queen for the queenless half.

1. How early should I begin to feed?
2. How much feed should I give at a time?
3. What time of the day should I give the feed?
4. Should I use two stories for brood, or one?

I have "Langstroth on the Honey-Bee" to explain dividing. IOWA.

ANSWERS.—1. Begin after bees are flying freely about every day. If you begin when it is cold and chilly, the bees will be induced to fly out when it is too cold for them, and the number chilled and lost will not be made good by your feeding.

2. Give half a pint to a pint of thinned honey or sugar syrup daily.

3. In the evening. Less danger of robbing then, and the bees will not be so much excited to fly if the weather is a little cool; but you may better not feed when weather is too cool.

4. Use one story till it is full; then a second; altho there is no harm in having a second before it is needed.

5. Keep studying your "Langstroth" carefully, and you will not get very far astray.

◆

Italianizing Black Colonies of Bees.

I have 26 colonies of black bees in dovetail and Langstroth hives; also one colony of Italians whose queen I got from Ohio last spring. I introduced her successfully, and she soon had a very strong colony of pure Italians. Next spring I wish to Italianize or hybridize my black colonies, as I find they are unable to protect themselves against the robbing Italians. I would like the best and simplest method of doing so, for one of limited experience. WIS.

ANSWER.—The first thing of importance is to study well some of the fundamental principles that you will find in your text-book, the mastery of which will be worth to you the cost of the book several times over; and then you can better tell just what plan will best suit you.

As you probably allow your bees to swarm, here is a plan that will work well with one having little experience:

See that your Italian colony, which we will call No. 1, has plenty of stores in spring so it will breed up strong, and give it brood from other colonies so as to get it to swarm first. When it swarms, put the swarm on the stand of No. 1, and set No. 1 in place of another strong colony, say No. 2, setting No. 2 in a new place. No. 1 will thus get the flying force of No. 2, and in two or three days will be nearly as strong as it was before. In a week or 10 days a young queen will emerge, and a swarm will issue from No. 1. Hive the swarm on the present stand of No. 1, and put No. 1 in place of say No. 3, putting No. 3 in a new place. No. 1 will swarm again in a day or two, when No. 1 will be replaced by its swarm, and you will put No. 1 in place of No. 4. Next day or so another swarm will issue from No. 1, and you will proceed as before, so long as No. 1 sees fit to swarm. That will give you 5 or 10 swarms with young queens that are daughters of your best queen.

Now let us go back to the time of the first swarm. When No. 1 swarms, instead of letting the swarm be satisfied with an empty hive, fill up the hive with brood from other hives, and by strengthening it sufficiently it will be likely to swarm again in a short time, when the story can be repeated as before; and this can be kept up till you have as many as 27 colonies with improved queens. By following up the same thing each year, you will soon work out all the black blood; at least to such an extent that you will have no pure blacks.

Of course, there are other ways by which you can have all changed the first year, but this is intended as an easy and safe way for an inexperienced operator.

A Bunch of Beginners' Questions.

1. What is the "Golden method" for producing comb honey?

2. In artificial swarming, say I had 5 colonies and 5 empty hives, can I take out 4 frames (I have 8-frame hives) of brood, put them into hives containing 4 frames of full sheets of foundation, replacing the frames I took out with 4 frames of full sheets of foundation? Will the brood I put in the empty hives hatch out all right without any bees, nurses, etc.? Should I shake off the bees into the old hive before I put them into the empty hive? How about a queen for the new hive? Should there not be some queen-cells to hatch out also, in the four frames I transfer to the empty hives?

3. Can I easily know a queen-cell?

4. Are there queen-cells in every frame of brood-comb?

5. I intend to work for comb honey—swarming conditions being best for comb honey—would it weaken the worker-force by removing the four frames of brood, especially if I did not shake off all the bees into the old hive?

6. I don't quite understand about cutting out cells and putting in queen-cells, etc.

7. About the Heddon method of transferring—the box that is to be placed on top to drum the bees into—the top of the hive I suppose is taken off; is the box to be large enough to fit the whole top? If not, what is to prevent the bees from flying out around the sides of the small box? Is the bottom of the box all open, or just a hole for the bees to go into the box? How would it do to have a window in the top?

SOUTH CAROLINA.

ANSWERS.—1. You will find the "Golden method" fully described in this journal for 1899, pages 4, 33, 65, and 97.

2. No; to put frames of brood without any bees in a new hive will be only dead loss. Don't think of trying to make new colonies at all until you know more of first principles by studying a good text-book. If your friend, whose journal you read, has no text-book to lend you, it would be a very nice thing for you to get a book to lend him. You need both a bee-journal and a text-book; but you should have a book first if you *must* get along without one of the two.

3. You will have no trouble whatever in knowing a queen-cell the first time you see one. If you see on a comb something that looks like a peanut made of beeswax, that's a queen-cell.

4. There may be one or more queen-cells on one comb and none on the rest. There may be queen-cells on every comb in the hive. There may not be a queen-cell in the whole hive, and most of the time there is none present. Generally, however, rudimentary cells, or cell-cups are present. But a complete queen-cell will be found only when the bees are rearing a young queen.

5. Every cell of brood removed will weaken the future force, the time when such weakening comes depending upon the age of the brood removed.

6. You will probably have no difficulty in understanding all about it from your text-book. The object of this department is to supplement the text-book, and anything not clearly understood from your text-book will be most cheerfully answered here. You will easily understand that if all the things of the text-book are answered here, it would take up all the room, for beginners are coming into the family with every number, so the whole journal would be taken up with things that can be found in the books, and the journal would be of no value to any one who has such a book in his possession. This is by no means meant to discourage questions; they are gladly welcomed; only let them come after reading the text-book.

7. When bees are to be drummed out of a box-hive, the box-hive will usually be found with no bottom nailed on; so the hive is turned upside down and the drumming-box placed over. If the box is not of the same size as the hive, then there must be some sort of adjustment by means of pieces of board or cloth, the particular adjustment depending upon the difference between the box and the hive. Latterly, however, it is not considered necessary to have a close fit; a little smoke will prevent the bees flying out, and the bees may be driven with a large open space unprotected. The more free the passage from the hive to the box the better. A window would hardly be worth the trouble, and is not necessary.

What Makes a Laying Worker?

What is a laying worker? Is it a worker fed a few days as a queen, or can any worker lay eggs? I have several times had colonies that became queenless when there was no brood in the hive, and such colonies never developt laying workers. This generally occurred in the fall, during a time when the queens were not laying. The bees would live until they were robbed out or died out in the spring, and never developt any laying workers.

I tried the experiment of putting a frame of brood, just ready to seal, in one hive, after which it produced laying workers. I also took from a strong colony its queen and all of its brood, and left it in that condition for 30 days, and no laying workers appeared. I then gave them some old brood, and in due time they developt laying workers.

I do not claim that the above experiments prove any thing, as bees do not always do things exactly the same, but I would like to know what some of the leaders think about it.

OREGON.

ANSWER.—Answering the spirit of your question, I must say I don't know what it is that makes a laying worker. It was formerly held by some that in some way, perhaps by being near a queen-cell, a young worker got enough royal jelly to enable it to lay eggs. Perhaps no one holds that opinion at the present day. It can hardly be that it is "a worker fed a few days as a queen," for the scientists tell us that for the first 3 days queens and workers are fed alike, the worker being weaned or fed on coarser food after the first 3 days, while the queen has the same diet continued during the remaining two days of her larval life. So you see if a worker were fed two days more than usual on royal jelly, she would be a queen complete.

Your own observations seem to show that workers may take up the business of egg-laying rather late in life.

It was formerly thought that a single laying worker did all the business. Then it was thought there might be several, and within a few years actual dissection has shown that a large number, if not the majority of workers in a colony, may be engaged in egg-laying.

The time of year and existing conditions may make quite a difference as to the matter of workers promptly taking up the egg-business. The kind of bees also has something to do with it. In some cases a colony may be queenless a long time with no laying workers. In other cases they may begin laying while a young queen is present but not yet laying.

All things considered, it seems not unreasonable to believe it is possible that any worker may get to laying, but just what conditions are necessary to make that possible I don't know.

York's Honey Calendar for 1900 is a 16-page pamphlet especially gotten up to create a demand for honey among should-be consumers. The forepart was written by Dr. C. C. Miller, and is devoted to general information concerning honey. The latter part consists of recipes for use in cooking and as a medicine. It will be found to be a very effective helper in working up a home market for honey. We furnish them, postpaid, at these prices: A sample free; 25 copies for 30 cents; 50 for 50 cents; 100 for 90 cents; 250 for $2.00; 500 for $3.50. For 25 cents extra we will print your name and address on the front page, when ordering 100 or more copies at these prices.

AMERICAN BEE JOURNAL.

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PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY,
118 Michigan Street, Chicago, Ill.

[Entered at the Post-Office at Chicago as Second-Class Mail-Matter.]

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IMPORTANT NOTICES:

The Subscription Price of this Journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "Dec00" on your label shows that it is paid to the end of December, 1900.

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Advertising Rates will be given upon application.

VOL. 40. JANUARY 18, 1900. NO. 3.

EDITORIAL COMMENTS

NOTE.—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

The National Pure-Food Congress will hold its annual meeting in Washington, D. C., March 7, next. We hope that Rev. Emerson T. Abbott will again be sent to represent the interests of bee-keepers. He has done so excellently in the past in that line, and knows exactly what is needed in pure food legislation, that he should be continued a member of the Congress so long as there is a necessity for its existence—and that will likely be for some time yet, judging from the slow way in which righteous laws have been enacted and enforced in the past.

A Black and Blue Bee Journal.—Referring to the correspondent in the Canadian Bee Journal, who wants all reports of big crops excluded and failures honestly publisht, the American Bee-Keeper says:

"We do not know of a bee-paper that does not honestly publish failures, but if the world is to have a journal that chronicles only failures, its pages, to be appropriate, should be a somber blue, with a cover of black crape, and its title 'Blasted Hopes.'"

Apis Dorsata has a faithful adherent in the American Bee-Keeper. Referring to Dr. Mason's comments in the Bee-Keepers' Review, it is not discouraged by the reports that come as to the failures to domesticate the big bee in other countries. It says: "What Australia, Holland or China may think or want in relation to this matter is of no concern to America." In Australia the paramount question is, "not to secure more honey, but rather to develop a market for that already on hand and now coming in." So the American Bee-Keeper can understand that Australians may not want to have more honey gathered.

After all, does not a bee-keeper in Australia think, "I'd like to have my crop increast as much as possible, but I don't care to have the entire output increast in proportion?" And will the American Bee-Keeper name the bee-keeper in this country who doesn't think exactly the same thing?

Six Thousand Dollars Cleared on Bees.—Sometimes a man invests in bees and loses money by it. Sometimes a man makes money by it. Much depends upon the man as well as his opportunities. N. C. Alford, a Colorado bee-keeper, is one of the successful kind. He says in Gleanings in Bee-Culture:

"I commenced the business without knowing anything about bees, and was in the business eight years, and cleared $6,000 in that time, after paying for the bees and all the supplies and labor hired. I liked the business, and it paid well; but I got to be 65 years old, and two years ago I sold my bees, as I had 1,000 acres of land in cultivation, and 500 head of cattle, and am a director in the Poudre Valley bank. I did not allow my bees to swarm. I took out the queens in June. I ran about 260 colonies most of the time."

The Automobile for Bee-Keepers.—Rambler gives in Gleanings in Bee-Culture a glowing account of the way in which the automobile may be used by bee-keepers. It is no doubt sportively meant, but it would not be stranger than some other things that have come to pass if it should all come true. With an automobile one is entirely free from anxiety lest the motive power should run away or capsize the load because of a sting from a loose bee, and this applies not only when the bees are to be hauled, but when a horse is to be used in any way about an apiary. Migratory bee-keeping will be encouraged with better roads and greater speed that will come. The automobile can be jackt up so the wheels will not touch the ground, and can then run a saw or other machinery. It can also be used to run a washing-machine, churn, sewing-machine or honey-extractor! It might also be used to ramble the Rambler around.

Ice-Houses Instead of Cellars for Bees.—We received the following from Mr. I. N. Hoagland, one of our New York State subscribers:

EDITOR YORK:—I clipt the following from a paper called The Household, publisht in Boston:

SHIPPING BEES IN ICE.

It is not generally known that a great many insects can live for weeks in a state of suspended animation under the influence of cold. Flies and beetles can stand an intense degree of cold, and yet revive if slowly thawed out. This fact has been taken advantage of lately in the shipping of bees.

Different varieties of bees are often sent from England to her colonies, but cost heavily to send alive with plenty of food. Now they are frozen, packt quite firmly in a very small box, and thawed out on their arrival.

A number of bumble-bees have recently been shipt to New Zealand in this manner, where they are found most useful in fertilizing the red clover that has lately been introduced into that colony.

If the above be true, would it not be well for us bee-keepers to build ice-houses instead of cellars and caves for our bees? What a boon it will be to the apiarist, when the the process for liquifying the air becomes cheap, and we can freeze the air in a hive of bees and thaw them out in the spring, without any loss of bees or honey!

My experience rather confirms the plan, for I winter my bees about 100 feet high in the open, on the roof of a building; and as cold as it was last winter, they came out in the spring all right.

I. N. HOAGLAND.

It is not so very strange that such things can go the rounds of respectable papers. Outsiders know very little about bees, even those that are smart enough in other things to make good editors. They think, "If other tiny creatures can remain frozen all winter and come out all right in the spring, why not bees?" Indeed, bees may be frozen for a short time and come out alive, but to be frozen long enough to be sent from England to some English colony is quite another matter.

The Weekly Budget

REV. EMERSON T. ABBOTT is again at the head of the editorial department of the Modern Farmer. It is now expected to make of it a good agricultural paper. We trust its publishers will be successful in their venture.

* * * * *

MR. E. T. FLANAGAN, of St. Clair Co., Ill., on Jan. 8, sent us a newspaper clipping telling of the 12 year old son of a farmer living near Mitchell, Ill., who was stung into insensibility by a colony of bees late Saturday night, Jan. 6. The boy's father had just bought the bees and put the hive in the yard between the house and the barn temporarily, the morning before the accident occurred. That night, the son, on going to the barn on an errand, ran against the hive and upset it. The weather being warm the bees just covered the boy and stung him almost to death before they could be smoked off.

Mr. Flanagan wrote: "The unusual case of one being stung nearly to death in the dead of winter, here where it is at that time so cold, is an event out of the ordinary." We should say it is an unusual occurrence, and a sad one, too.

Mr. Flanagan reported his own bees wintering well, having had a fine flight the day he wrote.

* * * * *

MR. J. H. MARTIN, of Los Angeles Co., Calif., when writing us Jan. 3, mentioned several things besides business, as follows:

FRIEND YORK: This is a happy day for California bee-keepers, for we are having another nice rain. The rains have arrived in regular order so far this winter, and we have every reason to believe that we will have a good honey crop. We must have the latter as well as the early rains to give vigor to the honey-flora, and the early rains have been so bountiful that we will certainly get the latter. Northern California has received a great amount, so much that it has interfered with the fall and winter plowing, and sowing of grain.

January 1 I attended a parade that is characteristic of this part of the country, and which could be held in but few places in the United States. It was a "Tournament of Roses," and given in the city of Pasadena, nine miles from Los Angeles. It was a fine affair, and in the long parade the vehicles were lavishly trimmed with roses and other flowers. If you had dropt down here from Chicago you would have thought yourself in Fairyland. The skies were smiling, the breezes soft; there was no need of overcoats. There was an immense crowd of happy, smiling people, and any quantity of beautiful girls in vehicles so covered with flowers that they lookt like angels resting upon flower clouds. I was extremely intoxicated with the odor of the roses. Some sons of Belial might say that the intoxication came from the rays from angelic eyes, sweet, laughing mouths, shapely heads, and sunny curls—but perish the thought!

When the cares of the "Old Reliable" are too much for you, and illness comes, seek these shores and we bee-men and the climate will do all we can to mend you. Don't be afraid of earthquakes—ours are of the mild order, and only now and then rattle down a building in some remote mountain fastness. J. H. MARTIN.

We are glad to know that California is getting the much-needed rain again.

Many thanks, Mr. Martin, for your kind suggestion for us to seek the fountain of perpetual youth where you are, when old age and general worn-outness come upon us. What with fragrant flowers, health-restoring climate, and, above all, luscious, intoxicating girls—my, my, Mr. Martin! No wonder you stay in California. But as most people are human, we'll forgive you this time.

But we don't know about those "mountain fastnesses" that seem to be really *fast* only when a good shake of an earthquake doesn't come along, and then they become—well, "mountain 'loosenesses,'" we presume. No, thank you, we prefer to stay on solid ground a while yet. Still, if within a few years you should succeed in getting rid of the "shakers," and still have the climate and "angels," we'll promise to think seriously of accepting your generous invitation.

* * * * *

MR. J. B. WILHELM, of Seneca Co., Ohio, when renewing his subscription for 1900, wrote us thus encouragingly:

"Altho the last two years have been failures in the production of honey, still I have hopes for the future, and will not do without the American Bee Journal. It stands by us and defends our cause in time of plenty, and we should still do our part when we have but little. Success to the ever 'Reliable.'"

* * * * *

AMERICAN FRUIT AND VEGETABLE JOURNAL. This is the name of a new monthly paper for fruit and vegetable growers, edited by Prof. T. H. Jones, associate editor of the Farm, Field and Fireside; but the new paper is in no way connected with the latter, which has this to say of Prof. Jones:

"Born in Ohio, Mr. Jones came with his father as a boy to a farm in Wayne Co., Ill. On the farm was an orchard of some 150 varieties or more of choice fruits planted by Samuel Halliday, father of Halliday Bros. This afforded an excellent object lesson in fruit culture. The young man saw that region greatly develop in the planting of orchards. After ups and downs, and a conflict with many pests in 1883, a wonderful crop of choice fruit was harvested, which was sold for some $5,000. This proved that Wayne and neighboring counties were adapted to fruit. The Jones fruit farm became well known in the State.

"Prof. Jones was educated at McKendree College, Lebanon, Ill., graduating in 1880. He has ever since been more or less occupied with horticulture, tho for ten years a teacher or superintendent of public schools, or a professor or president of a college. In 1886 he went to Kansas, and with a partner planted 175 acres in fruit, mostly in apples. He still retains a large interest in this orchard. In Kansas, also, Prof. Jones was connected with important educational institutions, and in 1896 returned to Illinois to take the presidency of the Orchard City College at Flora. As is well known, this is located in the midst of an apple-growing region.

"During his educational work Prof. Jones has had experience as an editor, and as will be noted, has kept up a practical connection with fruit culture and with gardening in general. He is familiar with the orchards of Missouri, Kansas, Illinois, and other States, and has an extensive acquaintance with nurserymen and farmers interested in these branches of horticulture."

A sample copy of this new fruit and vegetable journal may be had by addressing Prof. T. H. Jones, 713 Masonic Temple, Chicago, Ill. We have made a very fortunate arrangement, so that we can offer our readers the American Fruit and Vegetable Journal with the American Bee Journal both for one year at the price of our journal—$1.00—to one who pays his subscription to the Bee Journal a year in advance. The price of the new paper is 50 cents a year. Or, we will give, as a premium, a year's subscription to the new paper to the one sending us one new subscriber to the Bee Journal for a year with $1.00. To any one interested in the growing of fruit and vegetables the new monthly will be extremely valuable. And as bee-keeping and fruit-growing go so well together, every bee-keeper ought to have both the American Bee Journal and the American Fruit and Vegetable Journal regularly.

"The Hum of the Bees in the Apple-Tree Bloom" is the name of the new bee-keeper's song—words by Hon. Eugene Secor and music by Dr. C. C. Miller. This is thought by some to be the best bee-song yet written by Mr. Secor and Dr. Miller. It is, indeed, a "hummer." We can furnish a single copy of it postpaid, for 10 cents, or 3 copies for 25 cents. Or, we will mail a half-dozen copies of it for sending us *one new* yearly subscription to the American Bee Journal at $1.00.

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BEEDOM BOILED DOWN

Crystallization of Beeswax, according to a new theory advanced in the British Bee Journal, is to be credited with the hexagonal form of cells in honey-comb. Editor Cowan, however, gives pretty good reasons why it is not reasonable to put faith in the new theory.

Hunting Wild Bees in Winter.—When a thaw comes, the bee-keeper may hunt for bee-trees, the best time being the day after the thaw, when there is a crust on the snow that will hold up a man. When a bee is found, the hunter circles around the bee till more are found, the bees being plentier on the side toward the tree. Under the tree they will be found in plenty, the largest number on the side opposite the wind.—Bee-Keepers' Review.

Bee-Keepers' Sins.—Ten of them are enumerated in Rheinische Bienenzeitung as the prevailing ones:

1. Wintering weak colonies.
2. Not allowing sufficient stores for winter.
3. Not packing colonies warm enough for winter.
4. Not uniting weaklings in spring.
5. Making untimely artificial swarms.
6. Extracting honey at the wrong time.
7. Using foundation too sparingly.
8. Selling honey at too low price.
9. Lazily attending conventions.
10. Being selfish about imparting information to others.

That last is not a common sin this side the water.

Watering Bees.—Morley Pettit gives in Gleanings in Bee-Culture a plan by which he thinks the bees are sure of getting water that is always clean in a convenient way. He says:

"What we have found to be the most complete watering-place is made from a wooden bucket, a piece of matcht flooring 10 or 12 feet long, and a few stakes. With an inch auger, bore a hole in the side of the bucket as near the bottom as possible. Take a piece of pine and trim the end until it just fits the hole water-tight. Then bore a hole in the end, half an inch across, and an inch deep. In the bottom of this hole make a gimlet-hole, also an inch deep. Now saw off this two-inch piece. This gives a round piece of pine, one inch in diameter and two inches long, having a hole thru it lengthwise half an inch at one end, and about the size of an ordinary nail at the other. Use this to plug up the hole in the bucket, putting the end with the large hole in first, and allowing the other end to project for a spout. A nail placed loosely in the gimlet hole will regulate the flow. Drive 3 stakes in the ground to form a stand. Set the bucket on these, and a shade-board will complete the fountain.

"The piece of flooring placed on edge with the groove up is the trough. Have one end slightly elevated to give a good fall, and allow the water from the fountain to drip into the higher end of the trough, and run along the channel. The whole should be high enough so that a pan or pail can be set to catch the water as it flows from the lower end. Allow the water to flow freely enough to make a good current along the channel. If the bucket and trough are thoroly washt every morning the current in the channel will provide the bees with clean water all day."

The Long-Ideal Hive is used by a comparatively small number of bee-keepers in this country, altho largely used in Germany. Instead of adding stories to give more room, the room is gained by spreading out laterally, 25 or more Lang-

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Mention the American Bee Journal.

THE A. I. ROOT CO.,
MEDINA, OHIO.

Watch this column next week......

stroth frames being used in the one story. Perhaps the most prominent user of long-ideal hives in this country is the veteran O. O. Poppleton, who prefers this kind of hive for extracted honey, having used it extensively in Iowa, Cuba and Florida. In reply to an inquiry, he says in Gleanings in Bee-Culture:

"The dimensions of the long-ideal hive can be varied to suit any style of frame one wishes to use, keeping at least two points in view, viz., that the frames in use in them should be at least two or more inches deeper than is the standard Langstroth frame, and the hive should be long enough to hold as much comb in the aggregate as at least 25 Langstroth frames will hold. These are the essential differences between any simply made standard hive and the long-ideal.

"The hives I have in use are made of four boards 13 inches wide, front and back ones being 36 inches long, and the ends 15 inches. When nailed together the inside measure is 13 inches deep, 13¼ wide, and 36 long. Entrance to hive is ½x12 in the center of the lower edge of the front. The two sides have rabbets in the inside of the upper edge ½x½, for ends of top-bar of frames to rest in. I use a tight bottom-board projecting in front 1½ to 3 inches. Tight bottom-boards are a necessity with me because I practice migratory bee-keeping, but are not essential. Like the Dadants, I prefer the old-style telescopic cover. I couldn't be induced to use any other kind; but these are not essential to this system. Any style of cover works the same on these hives as on any other.

"The frames I use are 12 inches square, inside measure; but for Mr. Emory, or any one else wishing to test this style of hive on a small scale, I would advise his using the extra-deep Langstroth or Hoffman frame now being made for use in the Draper barns. In case he should ever wish to do so they could be easily changed to the standard size by cutting off the bottoms of the end-bars. The dimensions of the hives in case those frames are used would be the same from front to rear as in the Simplicity hive—enough deeper to fit the deep frames, and not less than 30 inches long, inside measure."

GENERAL ITEMS

Results of the Season of 1899.

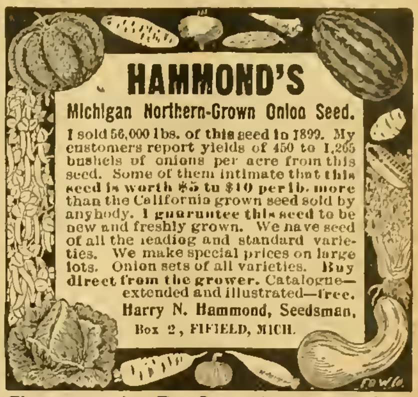
I commenced in the spring with about 80 colonies of bees, rather weak. They built up slowly, owing to bad weather, increast to 100, and got about 1,200 pounds of good honey, mostly all extracted. I united for winter down to about 80 again, as that is about the number that I care to keep, as I farm for a living. A. J. McBRIDE.

Watauga Co., N. C., Dec. 23, 1899.

Hoffman Frames—Introducing, Etc.

I think the Hoffman self-spacing frame is all right except the top-bar. The ⅞ is too clumsy and heavy, and occupies too much of the honey space; costs too much for freight, etc. The beaded frame has similar objection, and besides fastening the foundation to this bar with the roller is too much trouble and sometimes causes loss. The ⅜ bar is too light—liable to sag. What we want in all cases is the happy medium—½ inch, in my opinion would be right with sawkerf ¼ inch deep to receive the foundation or wood guide, as might be preferred. This, to my mind, would be the ideal frame, and as this is the hive that our supply manufacturers are preparing for the coming year, I think they should give this a consideration. I shall order this frame for my own use, and to supply my trade the coming season.

The side queen-introducing cage workt all right for me when placed on old comb. The bees will eat in, but don't bother them



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W. M. BARNUM, Publisher,
Wainwright Building, ST. LOUIS, MO.
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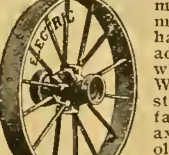

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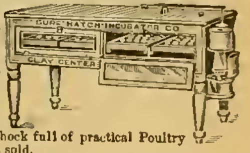

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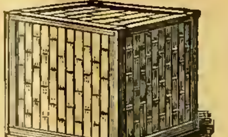

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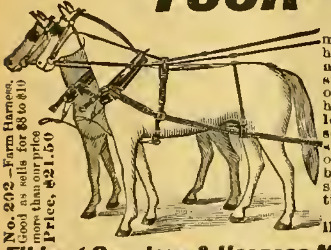

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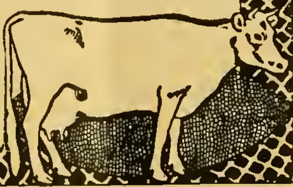

A Further Offer: We will give Dairy and Creamery for one year as a premium to any one of our readers who sends us one new subscriber to the American Bee Journal for one year at $1.00. Unless these offers appear again after March 1, in these columns, they will be withdrawn at that date; so you would better take advantage of them at once. Address,

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till the 4th day, when with but few exceptions all will be well.

Burlap bagging is best for packing over frames with corncobs across the frames to give passage over them. Then fill up the super with carpet, old clothing, or chaff, as most convenient. We winter our bees on the summer stands here.

The past fall was an ideal one—plenty of rain and snow, and not cold. The bees had an outing the other day.

I began last spring with 12 colonies—one of these queenless—and increast to 32 good, strong colonies. I reared some queens, bought some, and used quite freely of foundation. I took 500 pounds of alfalfa comb honey. Considering the amount of alfalfa that we now have in this part of Kansas, and the great amount of moisture that we are having, the coming season promises to be a boomer. Comb honey is retailing at 18 cents.

The "Old Reliable" is up to date, and if you are fortunate enough to be a subscriber and will read it you need not fail to be thoroly informed, nor fail to enjoy this goodly land of milk and honey.

Silas Harter.
McPherson Co., Kan., Dec. 26, 1899.

Bees Didn't Do Well.

I like the American Bee Journal very much, and I would not be without it; it is a great help. Bees did not do much good last season in this part of the country—hardly enough to keep them, and I had to feed. I had four colonies in the spring, and increast to six by the nucleus plan.

W. C. Stortz.
Mason Co., W. Va., Dec. 22, 1899.

Putting Bees in Early.

I saw in the American Bee Journal that some one put a few colonies of bees into the cellar Nov. 7. He thinks that is pretty early to put in bees, so he tried only a few colonies to find out how it works. He promises to give the results in the spring. I assure him that the result will be good, if it works with him as it does with me. I put my bees into the cellar Oct. 30. We had quite a warm spell after that, but I left them in, and they are all right now. I also will give the results next spring.

In 1898 I put them early into the cellar, and took them out late in the spring, and they came out all right. I never before saw such strong colonies in the spring.

This year has been a very poor one for honey here. When we first put the bees out there was a slight flow from poplar and maple, which was stored in the brood apartment. Next came dandelion, and white oats. These filled the hives up pretty well, and the bees began to cast swarms. When the flow was over there came a long spell that there was herdly anything for them to work on, before white clover and basswood came into bloom. Basswood did not last long, and it was too dry for clover, but buckwheat helpt us out; it started brood-rearing for the fall, and filled up the brood apartment, so the bees have at least buckwheat honey to winter on. Buckwheat is sometimes quite a source of comb honey here, also for extracted. Jos. Bethke.

Sauk Co., Wis., Dec. 19, 1899.

Honey Season a Failure in 1899.

The American bottom in the vicinity of St. Louis seems to have been a failure the past season in the matter of honey. I lost 30 out of 65 colonies the winter of 1898-99. They had plenty of stores but it was too cold for bees on the summer stands. I obtained some more from a neighbor, started with 40, increast to 50, but got only about 50 pounds of comb honey. Bees got very strong on white clover—as strong as I ever saw—but after that there was nothing. Heartsease and smartweed they did not work on, and of Spanish-needle I saw none. The fall asters, or whiteweed, were caught by frost as they were coming into bloom, and after that the bees did not visit them.

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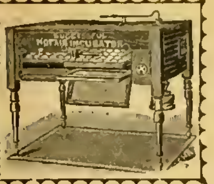

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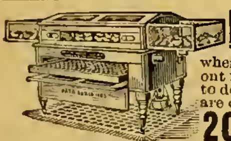

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W. H. DANCER, Lamoni, Iowa.

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They went into winter quarters with plenty of honey to live on, principally from the white clover.

I think we are overstockt here with bees, but I will try one more season. White clover has come back again to us here; for 15 years we hardly saw any, while 25 to 30 years ago every place was white with it.

C. A. Haines.
St. Clair Co., Ill., Dec. 29, 1899.

Laying Workers and a Remedy.

Where there is evidence of the existence of the pest, there are no nurse-bees, and the scant supply of field-bees is rapidly diminishing. By overcoming these two misfortunes the evidences of the existence of the troublesome insect will disappear.

Remedy.—Give the colony a frame of hatching brood. In three or four days repeat the dose. After a like interval give it a frame of worker-eggs, and, if convenient, a queen-cell inserted in a West queen-cell protector. With me this remedy works satisfactorily. It may help our Indian Territory enquirer.

O. L. Abbott.
Fresno Co., Calif.

Still Dry—An Earthquake.

Everything points to another dry year here, yet there is plenty of time for an abundance of rain. Bee-keepers and dry ranchers have had a very hard time of it the past two years, but we still have great hopes for the future.

I enclose a clipping from my blackberry patch. This is a perfect morning, like your brightest day of June. But one thing happened to mar the beauty of the day. At 4:30 o'clock this morning, we experienced a severe earthquake, which destroyed two towns—San Jacinto, 23 miles from us, and Hemet, 20 miles away. No lives were lost, but buildings all torn down.

B. S. Taylor.
Riverside Co., Calif., Dec. 25, 1899.

[The sprig of blackberry had fragrant blossoms on it. We are glad to hear that no lives were lost thru the earth's trembling—Editor.]

Plain Sections and Fences.

I will here give you the results of a test between the fence and plain section, and the old style bee-way section and the solid separator.

I fitted up two supers, put in one side fences and plain sections, and in the other side the bee-way section and solid separator—that is, I put 12 of each kind of sections and separatored them in each of the two supers. From one hive I got over twice as much honey as usual, and from the other nearly three times as much—from the side that was fixt with the fence and plain sections. The honey was taken out of both sides as fast as filled. So I think I want the fence in my supers.

Joseph E. Morgan.
Spartanburg Co., S. C., Dec. 25, 1899.

Had to Feed for Winter Stores.

The latter part of the summer (from the middle of August until the latter part of September) I was away from home, using the hot springs in South Dakota, to counteract the bad effects of la grippe, which had been fastening upon my system for the last 3 years, and I am happy to say that the water cure has had a most wonderful effect, inasmuch as I am greatly improved in my health.

But when I came home from the springs, expecting to extract at least 2,000 pounds of honey, I found to my astonishment that nearly all my bees were in a deplorable condition, yes, some even actually starving for the went of stores.

I went right to work, and fed in about a week's time 1,000 pounds of syrup, so that my bees are now in first-class condition. They had splendid flights Dec. 21 and 22, and also today.

Before going to the hot springs I took almost 1,000 pounds of extracted A No. 1 melilot (sweet clover) honey, and also some section honey. Having considerable dark honey on hand from last fall, I fed that, mixt with the best quality of sugar syrup, and thus I could sell all my melilot honey.

I now have the same number of colonies I had the commencement of the season—27 colonies in my standard hives with American frames, and 6 colonies in the new Heddon hives, with 12 queens of 1898 and 21 queens carefully reared in 1899.

WM. STOLLEY.

Hall Co., Neb., Dec. 23, 1899.

A Beginner's Experience.

I bought five colonies about two years ago, and have increast in the two years to 13. They are the first I ever owned, and I have had to learn by experience and the help of the American Bee Journal. My bees did but little good last season. I am not able to take the care of them that I would like to. I put the hives on a bench in winter, made about six inches high, set them as close together as I could, and put sacks on top and around them.

I sold my fall crop of honey at 15 cents a pound in the town of Asheville.

J. W. HAWKINS.

Buncombe Co., N. C., Dec. 27, 1899.

Cedar Hives—Moths.

I find in the American Bee Journal an enquiry as to red cedar for hives. I have used over 50 in my apiary for several years, and shall never use any other, no matter what the cost. There are several points of excellence in cedar hives—1st, they don't swell and shrink like those made of other lumber; 2nd, they keep drier; 3rd, they are lighter; and 4th, they don't warp as badly as pine. Give them a good coat of paint, and you will find them all right.

As to moths, keep good Italian bees, strong and healthy, and the moths won't bother.

R. G. HAUN.

Kittitas Co., Wash.

Bees Not Profitable for Him.

Bees have not been very profitable for em. I started with one colony three years ago, and have bought six colonies, all in box-hives, so I had to transfer to movable-frame hives. The first two years I didn't read any bee-literature, and I see now I made some grave mistakes. Every one who has only one colony of bees should read good literature on bees. A good bee-paper is very instructive whether a man keeps bees or not. I have read several this year, and decided the American Bee Journal comes nearer to what I need than any I have seen.

J. R. SCOTT.

Lamar Co., Tex., Jan. 1.

A Dry Season—Wiser Marauders.

The past season was the driest that we have ever had—not one rain from the middle of April till the middle of September—not more than a five or ten minute dash. Corn, beans, potatoes and hay were about half an average crop; clover was conspicuously absent.

My 70 colonies stored about 60 pounds of surplus, and I gave them 600 pounds of granulated sugar for winter stores.

I have kept an out-apiary of 12 colonies at a Mr. Light's, who then ran a custom-mill. While he was grinding my feed I would look after the bees. He moved away last fall, and the family that expected to move into his house in a week or two failed to do so. About the middle of January, during zero weather, some young men and boys were cutting and drawing ice from the pond near the apiary, and some of them opened the hives, took out frames of honey and jammed others out of place, and left off some of the covers, so the bees were in bad shape when I found them, except two. I did not dare to leave them there, so I moved them home Jan. 20.

I did not make much fuss, but found out who were at work there, and who were looking on. By the middle of April all but three colonies were nearly dead, but the boys had said enough so I found out some of them that had disturbed the bees. I saw a good lawyer, and told him to write each one and give them a week to come and settle with me. They sent a man, and found out what I would take, and after some quarreling among themselves, they raised the $50 and paid me.

D. L. FILES.

Monroe Co., N. Y., Dec. 27, 1899.

Convention Notices.

Minnesota.—The Southern Minnesota Bee-Keepers' Association will meet in Winona, Jan. 23 and 24, 1900.

E. B. HUFFMAN, Pres.

Homer, Minn.

California.—The tenth annual convention of the California State Bee-Keepers' Association will be held in the Chamber of Commerce, at Los Angeles, Feb. 21 and 22, 1900. It will be called to order at 1:30 p.m., Feb. 21. At this time the railroads will sell round-trip tickets to Los Angeles and return for one and one-third fare, on account of the Industrial, Mining, and Citrus Exposition, which will be held in Los Angeles. Tickets good for 10 days. Let every bee-keeper bring some hive, tool or experience that he has found valuable, and we will have a good convention.

J. F. MCINTYRE, Sec.

Sespe, Calif.

Wisconsin.—There will be a joint convention of all Wisconsin bee-keepers' societies at the 16th annual meeting of the State Bee-Keepers' Association, Feb. 7 and 8, 1900, in the State Capitol, at Madison, Wis. Many prominent bee-keepers will be there and take part.

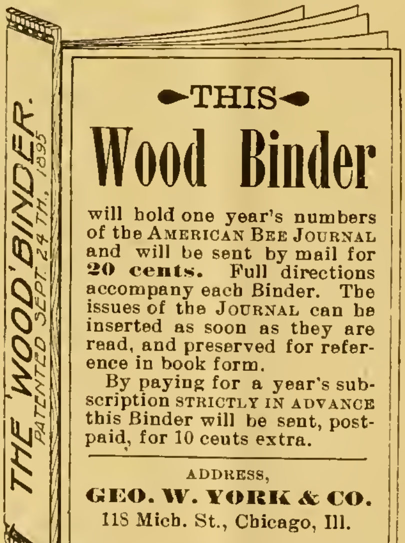
Excursion rates of a fare and one-third for the round-trip, for railroad tickets purchast in the State, for over 50 cents each. Be sure to bring a certificate of each ticket purchast so it can be signed Feb. 8, in Madison, and entitle the holder to a third fare return.

The State Horticultural and State Cheese-makers' Associations will meet on the same date in the Capitol.

Don't forget the date—Feb. 7 and 8. It will pay you to attend.

N. E. FRANCE, Sec.

Platteville, Wis.



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Alfalfa Clover	60c	1.20	2.75	5.00
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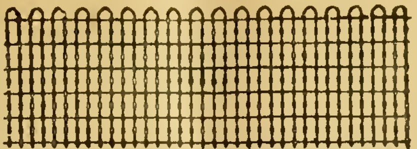

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The book is about to appear and on its title page in collaboration as authors are found the names of that most popular of all writers, IAN MACLAREN (Rev. John Watson), together with H. M. WHARTON, D.D., the great Evangelist, and J. WILLIAM BUEL, Ph.D., one of the most prominent and popular writers on Biblical subjects. A MASTERPIECE INDEED must be the book which calls to its creation such a combination of unmatchable talents. IT IS A MASTERPIECE—and it is good news we bring our readers when we tell them that after the most persistent endeavor and the most industrious and earnest negotiations with the Publishers, this paper is one of a syndicate which has secured the entire first edition for distribution among their subscribers, not as a means of winning profits, but to encourage the people to become regular readers, because of the unusual privileges which are offered regular patrons.

The book is entitled "THE GOLDEN MORNING," and while it was intended to be a $5.00 book, and has everything about it—authorship, illustrations, paper, printing and binding—to warrant that price, we have, after many objections and refusals, made terms whereby WE ARE IN POSITION TO OFFER IT TO OUR READERS AT A GREAT REDUCTION. It contains nearly 800 pages and over 500 superb illustrations. It is printed with clear type on coated paper, and is bound in beautifully illuminated covers, with gold and colored stamping.

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MARKET QUOTATIONS.

CHICAGO, Jan. 8.—We quote best white comb at 15c; an occasional small lot of fancy sells at 16c; off grades of white, 12@14c; ambers, 10@12c. Extracted, 8@9c for fancy white; 7@8c for amber; 6@7c for dark grades. Beeswax, 27c.

Receipts are larger and the demand is not as good as it has been. R. A. BURNETT & Co.

CINCINNATI, Dec. 7.—There is a good demand for all kinds of extracted honey. White clover and basswood sell at 8@8½c; amber and Southern, 6@7c, according to quality and package. Fancy comb honey in no-drip shipping-cases sells at 15@16c; darker grades hard to sell at any price. Beeswax, 26c. C. H. W. WEBER,
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LOS ANGELES, Jan. 4.—1-pound frames, 12½@15c; 2-pound cans, 2 dozen in case, per dozen, $2.50; 2-pound glass pails, per dozen, $2.50. Extracted, water white, 60-pound tins, per pound, 8½c; light amber, 7½@8c; dark amber, 7½c. Beeswax, 25@26c.

KANSAS CITY, Dec. 9.—We quote No. 1 white comb, 13½@14c; No. 2, 13@13½c; No. 1 amber, 13@13½c; No. 2, 12@13c. Extracted, white, 7½@8c; amber, 7@7½c; dark, 5½@6c. Beeswax, 20@22c. C. C. CLEMONS & Co.

BUFFALO, Jan. 5.—Market bare of fancy white one-pound comb honey, and selling at 15@16c; fair to good, 12@14c; buckwheat, dark, poor, etc., 8@10c. Fancy pure beeswax, 28@30c.
BATTERSON & Co.

NEW YORK Dec. 10.—Demand is very good for all grades of comb honey. Receipts are somewhat light and not up to former years. We quote:

Fancy white, 15 cents; No. 1, white, 13@14c; amber, 11@12c; and buckwheat, 9@11c., as to quality. Extracted remains firm at following prices: California white, 8½c; light amber, 8c; white clover and basswood, 8c; amber, 7½c. Very little trade for extracted buckwheat as yet. Southern, fancy, 7½c per pound; other grades, as to quality, from 70c to 75c gallon. Beeswax quiet at 26@27c. HILDRETH & SEGELKEN.

SAN FRANCISCO, Jan. 3.—White comb, 11½@12½c; amber, 8@10c. Extracted, white, 7½@8c. light amber, 7@7½c; amber, 5@5½c; Beeswax, 26@27c.

Market is very lightly stockt with extracted of desirable grade, and is firm at the quotations, with no likelihood of supplies increasing during the balance of the season. Comb honey is in fair supply, considering it has to depend mainly on local custom, but values for same remain steady.

CLEVELAND, Dec. 1.—Fancy white, 16@17c; No. 1 white, 15@16c; No. 1 amber, 13@14c; No. 2 amber, 12@13c; buckwheat, 9@10c. White extracted, 8@9c. A. B. WILLIAMS & Co.

BOSTON, Dec. 8.—We quote as follows: Fancy white, 16c; A No. 1, 15c; No. 1, 13@14c; buckwheat will not sell in this city. Extracted, light amber, 7@8c.

There is very little now to report in the line of our honey market. The retail trade are loath to pay the higher prices and are buying in a very small way, still the demand is fully equal to the supply. BLAKE, SCOTT & LEE.

ALBANY, Dec. 10.—We quote: Fancy white comb, 15c; No. 1 white, 13@14c; mixt, 11@13c; buckwheat, 10@11c. Extracted, white, 8@9c; mixt, 6½@7c; dark, 6. Beeswax, 26@28c.
MACDOUGAL & Co.
Successors to Chas. McCulloch & Co.

OMAHA, Jan. 4.—Prices remain unchanged. Fancy white is still moving slowly at 14@14½c. Extracted, white, 8½c. Now that holiday trade is over and dealers have taken their inventory, they soon will be thinking of replenishing their stock and more lively trade is anticipated in the near future, but no material advance is lookt for during January. PEYCKE BROS.

DETROIT, Jan. 11.—Fancy white, 16@17c; No. 1, white, 14@15c; dark amber, 10@13c. Extracted, white, 8c; dark and amber, 6@7c. Beeswax, 24@25c. M. H. HUNT & SON.

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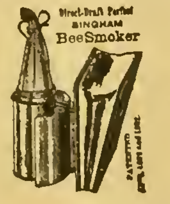

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GEORGE W. YORK, Editor.

AMERICAN BEE JOURNAL.

ESTABLISHED IN 1861 OLDEST BEE-PAPER IN AMERICA

DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS.

40th YEAR. CHICAGO, ILL., JANUARY 25, 1900. No. 4.

CONTRIBUTED ARTICLES

Report of National Bee-Keepers' Union for 1899.

BY THOMAS G. NEWMAN.

IN making this, my fifteenth and last annual report to the members of the National Bee-Keepers' Union, I labor under peculiar disadvantages. My eyes refuse to serve me to see or read anything, and I am obliged to say that I shall be compelled to retire from the active management of the Union on account of this disability.

During the past 15 years, I have labored assiduously to maintain bee-keepers' rights and defend them when assailed by jealous and envious persons. In this work, the Union has been very fortunate. It has won victories over strong opposition, and judges, courts and jurors have affirmed the rights of bee-keepers who have been defended by the Union.

Thomas G. Newman.

On account of the short crop of honey in nearly all parts of the United States, during the past year, there has been less manifestation than usual of the animosity of the enemies of the pursuit. When prosperity is not very apparent, envious neighbors do not usually trouble apiarists, or seek to abridge their rights and privileges. The National Bee-Keepers' Union has, as usual, in all instances maintained its record of triumph by either smoothing out the difficulties or crushing the opposition.

FRANK S. BUCHHEIM.—Hardly had the new year dawned, when I was called upon for further advice in the case of Frank S. Buchheim. In my last report I detailed the case of his arrest and imprisonment for keeping bees in the corporate limits of Santa Ana, Cal., of the trial and subsequent appeal to the Superior Court, and triumph therein.

In the meantime, his bees had been removed, and the question came up concerning their return to the spot from which they had been taken. I gave counsel to Mr. Buchheim in this matter, and all trouble seems to have been averted, fully ending the difficulty.

TROUBLESOME NEIGHBOR FOILED.—Last February I received a letter of complaint from Mr. R. L. Meade, of Ontario, Canada, stating that he had received a threatening letter from a lawyer, who had been employed by his neighbor, who complained about bees alighting on his bushes in swarming-time. As manager of the National Bee-Keepers' Union, I wrote a letter to his neighbor, showing the rights and privileges of apiarists, quoting general law on pursuing and capturing swarms of bees, and advised him not to interfere with Mr. Meade in his business, or attempt to abridge his rights as a citizen. I sent him copies of the decision of the Supreme Court of Arkansas, concerning bees, advising him to read them personally, and also to present them to his lawyer. This was no doubt done, and produced the desired result, nothing further having been heard from that quarter.

POISONING BEES.—Last March, George W. Woodberry, of Los Angeles Co., Calif., complained that a fruit-drying establishment in the proximity of his apiary had exposed poisoned sweets to entice his bees and poison them. I reviewed the whole matter, considered all the circumstances and surroundings, and advised Mr. Woodberry as to the best course to pursue, promising to write to the fruit-drying establishment just before time for their operations for the season, and endeavor to amicably arrange matters so as to prevent the destruction of the bees, as well as to secure their employees from being annoyed by the bees. As the honey season was a failure, no further trouble occurred in that direction, but the foundation is laid for amicable arrangements during another season.

MAKING LAWS AGAINST BEES.—M. Hettel, of Madison Co., Ill., entered complaint last spring that certain persons in his neighborhood were endeavoring to excite the people on the subject of excluding bees from the city limits, by passing an ordinance to compel their removal, and sent a clipping from the local paper concerning the matter. I advised him to keep perfectly quiet, and let the people do just as they chose, because they could not make an unconstitutional law constitutional by their foolishly voting it to be a law. I sent copies of the Supreme Court decision and other printed matter for distribution to those who would read them, instructing Mr. Hettel to secure the services of a good lawyer to look after the interests of the bees. This action quieted down the excitement and left Mr. Hettel in full possession of his rights and privileges as a bee-keeper.

BEES TROUBLE A NEIGHBOR.—Fred H. Fargo, of Genesee Co., N. Y., stated that bees had stung a neighbor and his horse, while working near his apiary; that he had endeavored to rent the land from his neighbor which was contiguous to his apiary, and thus prevent a recurrence of the annoyance. This, the neighbor refused to do, and consulted a lawyer for the purpose of compelling a removal of the bees.

I wrote several letters to Mr. Fargo to help him out of the difficulty, and furnisht him with the Union's printed matter, and promist to aid him in every way possible to maintain his rights, at the same time advising him to try to obtain an amicable settlement of the difficulty, by following the course outlined by me. The matter was arranged without recourse to law, but plans had been made to defend him, had it been necessary.

Threatening Lawsuit.—In July, J. Youngblood, of Los Angeles Co., Calif., sent me a notice which had been served on him, demanding the immediate removal of his bees from proximity to fruit-drying premises, threatening him with trouble if he did not immediately comply. I gave the matter attention, wrote to Mr. Youngblood what course to pursue, sent him copies of the decision of the Supreme Court, and directed him to employ a good lawyer to defend the case. This he did, and further trouble was averted.

When the parties making the threat were informed that the National Bee-Keepers' Union were defending the case, they stopt to consider the matter, and calmly lookt the facts in the face, rather than let passion run riot.

In all these cases, it will be seen what a moral power there is in membership in a Union, which has such a magnificent record of victories, when defending the rights of bee-keepers. Its name and history compel respect, and prevents foolish men from running into trouble by pursuing an unwise course in their persecution of apiarists.

Amalgamation of the Union and Association.—Last summer, being invited to write an essay to be read at the national convention to be held at Philadelphia, Pa., on the subject of "Organization Among Bee-Keepers—If Desirable, Why? and How Best Accomplisht?" I consented to do so, and a correspondence was the result, between Dr. A. B. Mason, secretary of the United States Bee-Keepers' Association, and myself, as secretary of the National Bee-Keepers' Union. It was mutually agreed that we should formulate a new Constitution suited to both organizations, and present it at the Philadelphia convention for discussion. After being amended by those present, Dr. Mason, secretary of that convention, duly notified me that it was approved by that body, and would be submitted by its members at the coming election, for adoption, and asking that it be also submitted to the members of the National Bee-Keepers' Union at the election taking place in January, 1900. It has already been submitted to the members of the United States Bee-Keepers' Association, and received almost unanimous approval.

I also submit it to the members of the National Bee-Keepers' Union, and request them to vote for its adoption in its entirety. This action and the election of the same officers will result in harmoniously uniting the two associations, as has been desired by a majority of both organizations for several years. It will present a united front to the world, and create a large and potent association to continue the work heretofore done by the two bodies.

[Then follows the new constitution (which we publisht on page 707 in 1899) and financial report, which shows 108 members and $126.00 in the treasury.—Editor.]

In submitting this, my fifteenth and last annual report, to the members of the Union, I desire to thank them for the courtesy and kindness shown me during that time, and shall ever remember such with pleasure.

Hoping that the future of the Union under its new name and management may continue to be a grand success, and that it may live long as a bulwark of safety for the apiarists of America, I remain,

Fraternally yours,
Thomas G. Newman, *General Manager.*
San Francisco, Calif., Dec. 31, 1899.

Mesquite as a Honey-Plant in Texas.

BY L. STACHELHAUSEN.

On page 797, I find the following question: "Will some southwestern subscriber tell us thru the American Bee Journal all about the mesquite as a honey-plant, time of blooming, duration of flow, and amount of honey per colony an apiary will average from it in an ordinary season?"

Mesquite (Prosopis Juliflora) is a brush or tree which covers our Texas prairies in large quantities, and is one of our most important honey-plants. It commences to bloom the end of March or the first days of April, and this first bloom lasts about four weeks. In a dry spring it blooms more, and gives more honey; this is a great advantage, because at such times all other plants fail to secrete honey. A rain will destroy the blossoms, and the honey-flow is suddenly closed for this time. It commences to bloom again in June, and keeps on till August, so we generally can see ripe beans and blossoms on the same tree. This second flow is generally not as good as the first one, at least in my locality.

It is hard to tell how much an apiary would average from this source. In 20 years' experience I do not remember that mesquite did not bring at least some surplus honey. The first bloom generally causes much swarming here. Last year I establisht an out-apiary seven miles from my house, where mesquite covers many thousand acres of land. Around here nearly all is cropt out. This apiary averaged about 120 pounds per colony; while my home apiary did not quite average 50 pounds per colony. In both apiaries mesquite was nearly the only honey-source we had in this very bad year of 1899.

Mesquite honey is of fine flavor, and very light color. It is by far the best honey in this locality, and I estimate it as good as clover honey.

Bexar Co., Tex., Dec. 19, 1899.

No. 5.—The Bee-Smoker—How to Get the Most Out of It.

BY "OLD GRIMES."

The first bellows smoker ever used in the Grimes apiary came from the first smoker inventor, Moses Quinby, and what a crude appearance it would present beside the elegant Bingham and the other smokers of the day!

As to construction, I do not believe the present smokers could be improved upon, and when the hereafter improvements come it will be in some radical change in the method employed to subdue the bees. In my day I have seen men eat tow and blow fire out of their mouth and nose, but the bee-keeper has never fathomed the secret—perhaps there is too much "hot blast" to it, but it is possible that some enterprising bee-keeper with an inventive turn of mind, will "catch on" to this idea some day, and all the bee-keeper will have to do will be to regulate his diet accordingly.

I have to deal, however, with the present smoker, and in the matter of either cold or hot-blast smokers the Grimes family have talkt the matter over autocratically at the breakfast table, and have come to the conclusion that all the bee needs to subdue her combative propensities is smoke, and the difference between hot and cold blast is not enough to make any material difference. We can make a cold-blast smoker hot-blast, or *vice versa.*

It depends much upon the fuel used, in order to make a lasting smoke. Some advise hardwood, maple, etc. Now, if you desire to make a hot-blast from a cold-blast smoker, just get a good wad of hardwood coals in the furnace, and the heat of the smoke will not be much more augmented if a hot-blast smoker is used. Now let us fill a hot-blast smoker with fine shavings, straw, or gunny-sacking, and after the smoke is well developt insert a compact wad moistened with water, and the smoke will be as cool as any one need desire.

I have seen many smokers since the days of Quinby, and have seen some immense, cumbersome fellows, with a sheet-iron fire-box as large as a stove-pipe. Such things need an extra man to carry them around, and to manipulate them, and life is too short to bother with them, any way.

The Grimes family use a medium-sized smoker. To start a smoker quickly we have used a little spring-bottom oil-can filled with kerosene. A few squirts with this upon the fuel before applying the match will insure a fire, every time. I have no doubt but Dr. Miller's saltpeter plasters would do as well. I take the Doctor's word for it, and he ought to know, for he is well up in the plaster business!

In our Grimes apiary we use gunny-sacking for fuel, as we have plenty of it, and we make a small square of it last half a day, and even longer. The sacking is prepared for business when the sun wax-extractor is in use. When the sun has done its work, and left quite a little hot slumgum, work the gunny-sack into it, and wipe out the tin bottom with it, and it will become saturated more or less with the residue of beeswax and bee-glue, and thus prepared it will burn a long time in the smoker.

But the boys and I are not arbitrary in our advice in the matter of fuel for smokers; we use what suits us, and are willing that others should do the same.

If we were to try to improve the smoker we would make it quite small, and light weight; and then as to fuel, we believe there are cheap materials that can be combined whereby a large amount of smoke can be made from a small amount of fuel. For instance, a Chinese joss-stick not much larger than a knitting needle, and about as long, will smolder a whole day, and emit a wreath of smoke and a pleasant incense.

It is a good plan to temper the smoke to the colony. Some bee-keepers temper the smoke according to their fears of bee-stings, but the practical man has no fear of stings, and can exercise a little mercy upon the bee. The experienced bee-man soon knows how much smoke to use, just from the way the hive opens up. It is quite an orthodox rule to smoke the bees at the entrance of the hive when it is approacht, but the busy bee-man forgets this operation so often that it is after awhile wholly neglected. The first blast into the top of the hive after the cover is removed sends a thrill of alarm clear to the entrance, and the temper of the colony is soon learned.

It is perhaps not a very important matter as to where the smoker is kept when not in use, but an orderly bee-keeper will have a little closet near the honey-house large enough for two or three smokers, and lined with tin or asbestos, and having an exit for smoke. You can get more out of a smoker by using it well, and then if it is put in a safe place, and there is a little fire left in it, there will be no danger from the fire communicating with other things. Many bee-hives and buildings have been damaged from this lack of care.

And now when I have said all I care to say about the smoker, one of the boys at my elbow remarks that the fellow I refer to who ate tow and spit fire reminds him that some men use a filthy weed known as tobacco, as fuel for smoke, and a pipe, and the mouth for a furnace; and that reminds me of the old adage about the man with a cigar—"A little roll of tobacco leaves with a fire at one end and a big fool at the other." Don't be a fool; but if you are, get into the ranks of the wise people as soon as possible.

Report for the Season of 1899.

BY A. F. FOOTE.

IN the way of a report for the season of 1899, I have this to say: I lost 40 colonies last winter and saved 14, which increast to 30 by natural swarming, and I secured 600 pounds of comb honey, mostly from buckwheat and fall flowers, tho the bees did well on Alsike clover, but the supply was limited.

My bees were weak in the spring, but I fed them liberally till fruit-bloom, and after that till clover bloom, and again, after the supers were removed, during the warm days in the early part of November, and they are now in the cellar with very ample stores for winter. Their last flight was on Nov. 28, and I put them into the cellar Dec. 4.

Like many other localities, as reported in the American Bee Journal, the honey crop here was light compared with many years in the past—in fact, this is not an ideal country for bees at best. I have sold all my surplus, regardless of color, readily, at home for 15 cents per pound.

EXPERIENCE IN FEEDING BEES.

I can't resist the temptation to give a little of my experience in feeding, which was hardly "according to the books," neither were the consequences which followed the method. Let it be understood on the start that there were no "neighboring" bees to bother.

Every day, during the time I was feeding, when it was warm enough for the bees to fly freely, I put out (on boards, boxes, etc., several rods from the apiary) broken and unfinisht sections of honey, and some old candied honey, diluted—all in shallow dishes of some kind—and let the bees help themselves. I regulated the supply so that it would all be cleaned up by the early part of the afternoon.

Well, did it teach them to rob? Not at all. Contrary to the theories advanced by the wiseacres at the Philadelphia bee-convention, there was not a single case of robbing or attempt to rob; when the day's supply of feed was cleaned up, they all returned to their homes and behaved themselves like the good little creatures that they are, and good-natured, too.

It seems to me my bees never showed so little disposition to sting as they did the past season, and they are mostly hybrids, too.

Now, a little further experience, and I am done: My first swarm, a large one, issued on May 27, just at a time when there seemed to be nothing for them in the fields, so I put a super containing several sections of uncapt honey on the hive to tide them over. A few hours afterward I went out, and it seemed as if half the bees in the apiary were hovering around that hive after the honey had been put into it, and I had quite a time dispersing them, but I succeeded at last, and saved the swarm.

I tried it again with a swarm that issued a few days later, with the same result. After that, as before, I did my feeding outside, and had no more trouble.

What are your experts going to do about it? Of course, the fact is perfectly clear that the stronger colonies secured more supplies that the weaker ones, and why should they not? There were more mouths to feed.

Mitchell Co., Iowa, Dec. 20, 1899.

Annual Report for 1899 of the Inspector of Apiaries for the Province of Ontario.

BY WM. M'EVOY.

DURING 1899 I visited bee-yards in the counties of Haldimand, Norfolk, Middlesex, Oxford, Brant, Wentworth, Lincoln, Wellington, Halton, Peel, York, Ontario and Simcoe. I inspected 126 apiaries, and found foul brood in 47 of them.

In places where I never had been before is where I found nine-tenths of the foul-broody apiaries the past season, and over three-fourths of the owners of these diseased apiaries did not know that their colonies had foul brood when I first visited them.

I took the greatest of pains to explain to the bee-keepers how to manage the business so as to have every colony a good, strong one, and in fine condition when they were cured of the disease.

In looking back over the nine years that I have inspected the apiaries in the Province of Ontario, I noticed that I had found foul brood very widely spread thru 30 counties, I succeeded in getting thousands of foul-broody colonies cured, the disease driven out by wholesale, and peaceful settlements made *in every case* where diseased colonies were sold thru mistakes of the parties selling, not knowing of their colonies being diseased at the time of sale.

Nine years ago very few among those that kept bees then were able to tell the disease from other kinds of dead brood, and not over half a dozen men in Ontario could cure an apiary of foul brood, and end the season with every colony in first-class order. The instructions that I gave while on my rounds thru the Province, and the driving out of the disease by wholesale, will make Ontario one of the safest places in the world in which to keep bees.

Mr. F. A. Gemmill is the man that deserves the credit for all the work that I have done, and the Government of our country that has paid for it. In 1890 Mr. Gemmill took hold and workt hard until he got the foul-brood Act past, which has proved to be a great benefit to hundreds of bee-keepers.

I am greatly pleased with the way the bee-keepers took hold in the past season, and cured their apiaries of foul brood. Where I found a few worthless colonies almost dead from the disease late in the fall (and near fine, sound apiaries) I burned them. The total number that I burned in the Province was 20 colonies, after the owners and I had reasoned out things nicely together.

And for the courteous and very generous way that I have been treated by the bee-keepers of every locality that I went into, I return to them my most heartfelt thanks.

Woodburn, Ont., Canada.

Selling Honey—Asking What It is Worth.

BY HARRY LATHROP.

I BELIEVE bee-keepers lose money by not having the grit to ask what their product is worth. It is the weak-kneed fellows that lower the price for the rest of the fraternity.

During the fall of 1898, the A. I. Root Co. sent out cards asking for prices on comb honey. I had some that I thought was fancy, and wrote them that they might have it at 13 cents on cars here. They replied that the price was too high for them, but they were glad if bee-keepers were able to realize so much. I knew when I wrote them that they could not afford to pay what I askt, and smiled at my own presumption. But, as it turned out, I was justified in asking what I did, for that whole lot of honey, fancy and No. 1, netted me a fraction over 12½ cents. I loaded it into a box-car with hay under it, and no outer cases, and it went thru to its destination without being handled. This honey was sold by a commission house.

This year (1899) my honey was all light amber mixt. The commission men claim that amber honey does not sell well, consequently I sold my honey direct, realizing 12½ to 14 cents net for the amber comb honey. I sold it in lots direct to retail merchants, and not in a single instance has any one complained that the honey was not good. If I had listened to the Chicago commission men I would have concluded that it was a hard matter to sell such honey, and been willing to take any kind of price for it. I am glad to know that in New York State this mixt amber honey is appreciated. A market can be establisht for it here in the northwest if bee-keepers are firm in demanding what it is worth.

There is no sense in the idea that honey must be "white" in order to be good honey, no more than there is in the idea that honey in tall sections is better than it is in square sections.

My honey this year was produced from white clover, goldenrod, asters, and heartsease, all blended together, and many people prefer this honey to any other.

We should be shy of those persons who go to bee-keepers and offer a big price for "strictly white clover," or strictly something else, when they know he has none that is unmixt, and expect to buy his mixt grades for about half what they are worth.

Honey of good body and flavor need not go begging, even if it has been produced from a variety of flowers.

In conclusion, I would say to the producers, If you must sell your honey at a low price, it is better to let the jobber have it than to sell it to the retailer. The jobber knows what it is worth, and will not sell it at a price to demoralize the market as the retailer would be very apt to do.

The best sign of the times for bee-keepers is the fact that buyers were lately going about the country picking up honey in small or large lots. This indicates that soon there will be an establisht market value for honey, the same as there is for wool and other products of the farm.

Monroe Co., Wis.

CONVENTION PROCEEDINGS

Report of the Michigan Bee-Keepers' Convention

BY WM. G. VOORHEIS.

The Michigan State Bee-Keepers' Convention was held at Thompsonville, Mich., Jan. 1 and 2, 1900. The meeting was called to order by Pres. Geo. E. Hilton. Owing to the absence of Secretary Hutchinson, Wm. G. Voorheis was elected secretary *pro tem.* The secretary not being able to prepare a program, it was suggested that the members discuss any topic they may be interested in.

THE WINTERING OF BEES.

Mr. Chapman—I winter my bees in a very dry cellar under my house. I want my bees in good condition before I put them into the cellar. I put them in early—one time in September. Bees will consume more honey in six weeks in the fall when the weather is cool and frosty than they will in three months in the cellar. I use the single-walled hives, and keep the cellar dark—temperature about 45 degrees. I would not have chaff hives, as they are too much bother. Where I live it is very cold in winter, as the altitude is about the highest in the Lower Peninsula. I do not ventilate the cellar in cold weather or towards spring.

Mr. Van Amburg—I winter my bees in a cellar built in a sand-bank. I wintered them in a cellar for two years that was built in a clay-bank, and did not like it, as it was too damp. I do not think it wise to keep the bees out late in the fall when it is cold and frosty. I keep the cellar dark, and temperature 45 degrees. I want good feed to winter bees on. Poor feed will not winter bees well.

Mr. Chapman—I winter my bees in hives with the bottoms nailed on. I leave the covers on, and use the Langstroth hive.

Mr. Van Amburg—I use the Heddon hive, and set it so it will tip forward. I shove the covers forward so as to leave a space of ⅛ inch at the back, and double up in the spring and fall. My bees get most of their honey from raspberry and white clover.

Mr. Coveyou—I have wintered my bees the last five years in a cellar, with a loss of about two percent. I use the 10-frame Langstroth hive, and do not like the bottoms nailed on. I use the single-walled hive, and get most of the honey from raspberry.

Mr. Kitson—I am a farmer bee-keeper, having 78 colonies. I wintered them in a cellar two winters, that was built in a bank close to a creek, and lost half of them each winter. Now I winter them in a cellar under a barn. I put in 32 colonies last winter, and did not lose any. I have used chaff hives, and lost 5 colonies out of 30 by spring dwindling. I do not see any difference in spring dwindling between single-walled hives and chaff hives. I could not see any difference in spring dwindling between bees wintered outdoors and those in a cellar.

Mr. Woodman—I winter bees in a cellar under the house, the chimney of the house going down to the bottom of the cellar. No trouble about wintering.

Mr. Hilton—The entrance of the hive must not be closed in the cellar or outdoors. If the bees find they are confined they will rebel, and then die.

Mr. Irwin—I winter bees outdoors, using Hilton chaff hives. I have no trouble with spring dwindling. I put four colonies in the cellar last winter, and lost all. I like the chaff hives best, as they are cool in summer and warm in winter. I use a cushion made of factory-cloth filled with chaff on top of the hive.

Mr. Hatch—I use the Hilton chaff hive, with a chaff cushion on top. Last winter my bees were all right up to March 1, but by the last of March I found that I had lost two-thirds of them. The bees had plenty of honey. The loss occurred in a period of from 15 to 20 days. The hive-entrances were closed, and about one-half of the combs mildewed.

Mr. Gifford—The closed entrance was the cause of the loss of the bees.

Mr. Kaufman—I winter my bees in a damp cellar. I first wintered with hive-covers on tight, and lost one-half of them. The hives came out damp and soggy. The next winter I left the entrances open 1½ inches wide, and lost them again. While it was dry near the entrance it was wet back from it. The next winter I put a piece of factory-cloth over them, and lost none. The next winter I did not leave anything over them, and lost one-half of them by dysentery. My bees ate too much honey. Now I set the hives on a 2x4 inch scantling, pile them four tiers high, diagonally, with a piece of factory-cloth over each of them. I have had no trouble since I used them.

Mrs. Morrow—I winter my bees outdoors in chaff hives, with chaff cushions four inches thick on top of the hives. I do not have any trouble.

Mr. Hilton—I want well-ripened honey to winter bees on. I do not extract from the brood-nest. You cannot expect comb honey where you use the extractor.

Mr. Calvert (of Ohio)—Nineteen years ago Mr. Root lost all his bees in winter by selling bees by the pound the summer before; but since that time he has not lost 5 percent. He uses chaff hives, and always winters his bees on sugar syrup. If bees get honey-dew you will lose them. Mr. Root uses chaff cushions on top of the hives, and feeds up in September and October.

Mr. Beecham—I do not believe in feeding sugar syrup to bees, as it gives the bee-keeper a bad name.

Mr. Calvert—I think it is safer to feed syrup than honey that one knows nothing about. Our bees will not take glucose.

A vote was taken on outdoor wintering and indoor wintering, resulting as follows: For outdoor wintering, 20; indoor, 11.

Mr. Collingwood—I use the chaff hive, and winter outdoors. I think that people living in the South should winter their bees in cellars. Bees will starve to death if kept too cold with plenty of honey in the hive.

Mr. Hilton—Towards spring, when a warm spell comes, the bees commence to breed, then if the weather should become cold the bees would starve before leaving their young to get honey. The bees cluster around their brood to keep it warm, and do not like to leave it for fear the cold will kill it.

Mr. Collingwood—The cushion over the hive should be three inches thick, made of two thicknesses of burlap on each side.

Mr. Van Tassel—I have kept bees four years. I use chaff hives, and winter them outdoors. Bees will keep warm in the fall without trouble. The first winter I lost one colony out of eight. Last winter I lost 15. I throw snow around the hives when it is cold, and keep the entrances clear. Last winter a neighbor lost every colony he had in a building on top of the ground.

Mr. Van Amburg—A neighbor banks up his hives with snow. He uses chaff hives.

Mr. Hilton—I use chaff hives, and have wintered bees with snow around them. I do not dig them out until towards spring, and keep the snow away from the entrances.

Mr. Hatch—I like to shade the hives when the bees begin to fly.

Mr. Beecham—I have had bees 18 years, and wintered them outdoors in chaff hives until the last two winters, then I used single-walled hives in a cellar. I think the chaff hives are too much bother, the principal trouble being to spring them.

BEST METHOD TO PREVENT SWARMING.

Mr. Hilton—Bees swarm for two reasons—for increase and for lack of room. I can prevent swarming to a great extent by extracting and adding supers. I always put the empty super under the one that is partly filled. I have not had over one-third of my bees swarm by using the tiering-up process. Watch them closely, and see if they have plenty of room. If two supers should be one-half filled, place an empty super between them. In 1896 I bought bees from various persons, and several colonies had lost their queens. One queen swarmed out when two frames were filled with brood. There was no more space for brood, as the rest of the frames were filled with honey. They will not swarm so much if they have plenty of room. I do not use unfinisht sections the following season, but use foundation, which I think is better than old comb; the latter I do not consider valuable to use in sections.

Mr. Calvert—I reduce the comb with a comb-leveler.

Mr. Gifford—I take imperfect sections that are nicely drawn out, extracted the honey from them, and use them again. These sections do not have any fish-bone in them.

Question—Is there a non-swarming hive?

Mr. Hilton—I do not think that there are any non-swarming hives.

Mr. Coveyou—The trouble is, that the colonies do not receive the attention at the time that they should have it.

GETTING BEES TO WORK IN SUPERS.

Mr. Hilton—When the bees cap over the upper surface of the frames, they will not work in the supers. Bees that get their brood-nest clogged with honey will not use supers. Use the extractor when the frames get capt over; that will force the bees into the supers. You must uncap the brood-combs. You could use foundation in frames instead of combs.

Mr. Beecham—I have used the Heddon hive, and reverst the hive to prevent swarming, but they swarmed 10 days after it was done.

Mr. Hilton—I do not use the queen-excluder in my hives, but a thick top-bar.

Mr. Chapman—I use the queen-excluder. My bees do not swarm, as I do not produce comb honey. My locality is not suited for it. I have young queens every year. My colonies are strong in the spring, and at the beginning of the basswood flow I kill all my queens. When I want increase I divide at the close of the season. Young queens will not swarm if given plenty of room. By keeping the swarming-fever down I keep the queen in the lower story. I take two frames from the lower story that are filled with brood, and place those over the brood-nest, and add frames from time to time as needed. I never use a queen more than one year. I get better queens in this way than I can buy. I have bought some queens—got them by mail; the trouble seems to be that they get injured in the mails.

Mr. Calvert—I think that queens that come by mail are not in as good condition as those reared at home.

Mr. Kauffman—I kill all my queens at the beginning of the basswood flow, and I get one-third more honey when I kill the queens.

Mr. Hilton—The plan of Mr. Chapman and Mr. Kauffman is to get honey instead of brood. As the young queen does not lay as soon the hive is not so full of brood for the bees to take care of, so all the bees can gather honey. By letting the old queen live the family of brood eat the honey.

Mr. Chapman—I winter my bees in one-story hives; after the honey-flow the bees increase enough to make a good colony for winter.

[Concluded next week.]

QUESTIONS AND ANSWERS.

Dr C.C. MILLER.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—Editor.]

The Clovers as Honey-Yielders.

What clovers and flowers are the best for the production of honey, in your opinion? Do they produce light or dark honey? I have noted somewhere that alfalfa and alsike clovers are good. Is that the case? If so, are there any others of the clovers? Sweet clover, I believe, is good, but it spreads so. Is there a law prohibiting the raising of this plant? ILLINOIS.

Answer.—In your region, central Illinois, you will find any of the plants mentioned good, except alfalfa. Alfalfa is one of the very best honey-plants in some parts of the West, and it has been successfully raised as a forage-plant in Illinois, but for some reason it does not seem to be of any special value as a honey-plant as far east as Illinois. Alsike is an excellent honey-plant, and no doubt a valuable forage-plant where you live; the honey from it is light and of finest flavor. Sweet clover is one of the best honey-plants, the honey being light in color. Some say the flavor is objectionable; some say it is the very best. It is possible that the objectionable flavor only comes when the honey is poorly ripened. There is no law against sowing sweet clover, and altho it spreads along the roadside, in cultivated fields, it is no worse to spread than red clover.

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Several Young Queens in a Hive.

Generally the books for beginners say that when there are two or more queens in a colony, to decide which shall rule the hive, the queens have a battle and the victorious one is the accepted mother.

Now, I have not had as much experience as some, and not any with a glass hive, but all my observance has been that the queen question is decided some way, then after it is settled, the doomed queen, or queens, are destroyed by the bees in about the same manner as drones, and the accepted one is going about her own affairs just as tho nothing was going on.

What I wish to know is this: Are my observations misleading me, or has there been a change of opinion since these books were first written, or are these statements in the books true generally? If I am going astray in this circumstance I may be going wrong from other observations which I might be accepting that I might believe true ones.

SUBSCRIBER.

Answer.—It is the general belief that the workers decide whether any of the young queens are to be slaughtered or not. If they decide that for the present all are to be spared—which is equivalent to deciding that there shall be one or more after-swarms—then the workers protect the young queens in their cells from the attacks of the young queens at large, and no others are allowed to emerge from their cells. When the workers decide that there shall be no more swarming, then none of the young queens in the cells are protected, and all are allowed to emerge from their cells that are sufficiently matured. When more than one is at large, there is a fight to the finish whenever two of them meet. Those in the cells too young to emerge have their cells torn open and their lives taken by their older sister, the workers afterward concluding the work by carrying out the dead bodies and tearing down the cells.

If there are young queens in their cells when a young queen "is going about her own affairs," you will probably find, if you observe closely, that one of her important affairs is murdering her royal sisters in their cradles, or trying to do so if the workers keep her off. It will be an easy thing in many cases for you to see a royal battle, if you allow to come together two young queens. They do not make very slow work about it, either. One time I cut out of a frame a piece of comb on which were two mature queen-cells, neither of the queens having yet emerged. I laid down the two cells and closed the hive, then turned to take care of my two queen-cells. In that short time both queens had emerged and one of them was stung to death by the other.

Superseding Queens—Rearing Queens in Upper Stories.

1. When bees start queen-cells for the purpose of superseding their queen, are they apt to, or do they ever, let more than one cell mature, and then swarm?

2. When cells are placed in an upper story to be cared for, with an excluder between the upper and lower story, will the bees allow a cell to hatch and the queen to live in the upper story? New York.

Answers.—1. As a rule they do not. Most of the superseding is done near the close of the honey-harvest or after its close, and sometimes in the early part of the season before the honey harvest. In neither case will there be any swarming, and only one young queen will hold the field. But if superseding should occur during a full flow of honey, the chances are in favor of swarming.

2. A young queen will be reared in the second story, but will in some way disappear before she gets to laying. At least it has been so in a number of cases that I have tried. But the case is different if the young queen is reared in the third or fourth story. In more than one instance I have had a queen reared in the fourth story and continue laying there thruout the season, the old queen being in the first story with an excluder over it but no excluder between the other stories. There was an entrance to the fourth story.

Starting Foul Brood.

A friend of mine who has been keeping bees for a long time says his bees have foul brood, and doesn't have any idea how it started. He has run mostly for extracted honey. Now to the question:

1. If one should extract honey out of combs that contain brood, and kill considerable brood at the close of a honey-flow, and the bees allow the brood to remain in the combs until it becomes decayed, is it possible foul brood would start?

2. At this time of year is there any way to stamp it out, except by burning hives, bees, and everything that may be infected?

I am very much interested for fear the disease may spread, as it is only about 10 miles from me. I have 10 colonies in prime condition. Texas.

Answers.—1. If there is no foul brood anywhere in your region, I don't believe you can start it by any treatment of the brood. If it is in the neighborhood, bad treatment of the brood might favor its rapid development.

2. You will hardly be able to make a thoro cure of a genuine case of foul brood at this time of the year in any other way than by the utter destruction of the colony.

Domesticating Wild Bumble-Bees.

Has any one ever tried to domesticate the wild bumble-bee that builds its nest in the meadows? If so, what were the results? Did he get them domesticated? How did he try to domesticate them? Dr. Miller, this is a pretty hard question to answer, and I hope you will only do the best you can. I will try to domesticate them next summer, but if you know that they cannot be domesticated, and will please tell me, it will save me both time and labor.

My reasons for wanting them domesticated are these:

1. Because they are larger than honey-bees, and can therefore carry more honey at a single time. I suppose somebody will tell me they will also eat more than a honey-bee; but I explain it thus: If you have a large pig, and bring it to market, you will get just as much for it as you would for two that were each only half as big; and the profit is, the large pig would not have eaten as much food as the two small ones. Altho pigs and bees differ greatly, in this respect they are the same.

2. They have a longer tongue, and can therefore gather honey from any kind of flowers.

3. They will gather more surplus than others.

4. Their honey tastes better than that of other bees.

5. They will take the place of Apis dorsata. Iowa.

Answer.—Yes, I tried it long before I knew a queen from a drone. No doubt a good many others have tried it. Bumble-bees can be domesticated as well as hive-bees; that is, they can be got to stay in a box, and only a small box is needed, but there can never be got honey enough to pay for the trouble. You never find any considerable amount of honey in a bumble-bee's nest. They don't get any serious surplus ahead like hive-bees. Bumble-bees' honey tasted to me, I think, as it did to you, the best of any honey I ever tasted. I suspect, however, that if some one had filled one of the pockets in a bumble-bee's nest with honey from a section, I would not have known the difference. A barefooted small boy chasing thru the meadows till he had a ravenous appetite would be delighted with any sweet he might find, and the less of it the sweeter it would taste. It will cost very little, however, for you to try the experiment, and you can get some good honey; but there is no great danger that the market will ever be overstockt with honey gathered by bumble-bees.

Open-End or Closed-End Frames.

As I am a beginner in bee-keeping I want to start in with the best kind of hive for comb honey. The winters here (northern Maine) are severe, and I intend to winter my bees in a good, dry cellar. Which hive would *you* advise me to start with—one with hanging frames, or closed-end frames? It seems to me a hive with the latter style of frames in this climate might be better than the open-end frame. Maine.

Answer.—Your question is not so easy to answer. For the bees it is probably better to have close-end frames. That makes practically a double wall at each end. For the convenience of the bee-keeper it is better to have the frames spaced with staples or nails. I think the ideal spacer would be a nail with a head ¼-inch thick, so that it would automatically be driven the exact depth; but you can't get such nails. For my own use, I have decided that the advantage of the closed-end frames to the bees would not be enough to overbalance the inconvenience of handling such frames. If there is no bee-glue where you are, and if you don't mind going slow enough to avoid killing bees between end-bars, then you might do well to have closed-end frames. So long as you winter bees in the cellar, northern Maine is no worse than northern Illinois. Indeed, even for out-door wintering it is possible you have the best of it, for you hardly have the savage winds that sweep over the prairies of Illinois. If I were to be set down on the next farm to you, I should prefer open-end frames; but all would not agree with me.

Why Comb Honey "Works."

If this is not too old a conundrum, please answer it in the American Bee Journal:

Quite a number of my sections of honey seem to "work" after being stored away. The combs look foamy and a good part of the honey runs out. Some were in a very warm place—others where it was cool—but all acted alike, i.e., all that workt at all. Do you know what caused this, and what will prevent it? Chucklehead.

Answer.—No conundrum is too old for this department. The only ones ruled out are those whose answers are plainly given in the text-books; so yours is in order.

The only reason for your honey working and foaming was because it—that is—well, it workt. "Why did it work?" Well, honey attracts moisture from the air, and when it becomes thin enough it may ferment. Now, that's enough to satisfy any reasonable person, but it will be just like you to say, "But what special reason was there why my section-honey should act so, more than other honey? All honey doesn't behave in that way." Well, since you insist, I must answer that I don't know. You may rely upon it, however, that unless there was some special characteristic about your honey that made it different from other honey—which I very much doubt—the conditions were favorable for the absorption of moisture to a more than ordinary degree. Some sections were worse than others in the same lot, and that may have been because of difference in ripeness when taken from the hives, providing all had the same treatment after being taken from the hives. If one section is left on a hive longer than another, there may be a difference in ripeness.

Some of it was in a warm, and some in a cold, place. Other things being equal, the honey in the warm place had the advantage, but there may have been some reason why the warm place was unusually damp. If you keep honey in a warm room, and this opens into a warmer room in which steam is generated, your honey would attract moisture from the atmosphere.

The remedy is to keep the honey in a place where the constant tendency is toward drying. If thru the hot weather it be kept in a hot, dry, airy place, it will stand much more abuse when cold weather comes. Where salt keeps dry is a good place to keep honey.

Possibly no true guess has here been made to fit your case.

Feeding Bees in Box-Hives.

1. I am much interested in your answer to "New Jersey," on page 6, for I have lately purchast 3 colonies of bees in what are practically box-hives. One of them I will have to feed. I have no cellar, and want to pack them as I do the others on the summer stands. I can get the lids off, so how will it do to lay the candy on top of the brood-frames, and after putting a super on, pack above it as usual?

2. Can I put in enough candy so it will not be necessary to disturb them again until summer—I mean, would it be advisable to do so? KANSAS.

ANSWERS.—1. Your plan will work all right, unless it should happen that the bees did not reach the candy, in which case they would starve with abundance over them. This might happen if you should operate in a very cold time when the bees were shrunk into a ball a little out of reach of the candy. Better make sure before covering up, that the bees actually reach the candy. If the weather is mild there will be no trouble; but if it should be cold it would be a good plan to drum on the hive enough to make them go up to the candy. This is on the supposition that they are so short of honey that they might starve before a day comes warm enough for them to reach the candy. If they have honey enough to last till the first warm spell, there need be little fear.

2. Yes, there will be no harm in putting in too much, and there might be much harm in putting in too little.

Transferring, Dividing and Italianizing.

I have two colonies of hybrids in Quinby hives, very populous, with about 40 pounds of honey in each hive for the winter. Next season I wish to divide, Italianize, and transfer them to Langstroth hives. Can I make one job of it in the following manner?

Smoke the bees at the entrance, lift the hive from the stand, take off the cover, and place the honey-board on top of the frames. Then set the new hive, No. 1 (fitted with Hoffman frames of empty combs or foundation, without bottom-board, and containing caged Italian queen) on top of the old hive, drum up the bees for 10 or 15 minutes, until about half of them have ascended, then set the new hive on the old stand.

Next set new hive, No. 2, on the new stand, fitted with frames as before, but without a queen; shake the frames with adhering bees and the old queen into the new hive, No. 2. Transfer the 10 combs of brood and honey from the old frames to Hoffman frames, and put five into each of the two new hives. Take away the old queen from hive No. 2 in two or three days, and introduce an Italian queen about two days afterwards.

When would be the best time to do this? Any change in the operation that you can suggest, will be gratefully accepted. MASSACHUSETTS.

ANSWER.—Your plan might not work to your satisfaction. When you drive the bees into hive No. 1, you have no security that the queen will not go up with them. If you drive half the bees into No. 1, all the field-bees left in No. 2 will join No. 1 in a day or so, and you will have no bees left in No. 2 except half of the bees under 16 days old.

You may be better satisfied to transfer the colony into Langstroth frames in time of fruit-bloom, reserving the extra combs for future use if you have more than you need for the Langstroth hive; then when the colony swarms, hive the swarm in hive No. 2. It will be just as easy to make a separate job of Italianizing, and will scarcely take any more attention than the plan you propose; for in one case your introducing the queen is a separate job, and in the other you will have to see to releasing her at the proper time. Before trying any original plans, always study thoroly your text-book so as to have principles well in hand.

Bees Dying in Winter.

My bees seem all to be dying, and I don't know what can be the matter with them. They seem to be full and healthy looking, but some colonies are dying very fast, while others don't seem to be affected. Can you tell me anything about it? It can't be paralysis, for they don't have the greasy look that is described in "A B C of Bee-Culture." They have plenty of good sealed goldenrod honey. MO.

ANSWER.—With no other information than the bees are dying, and that they have a healthy look, it is hard to make any guess as to the cause, and possibly it would be no easier if one were on the spot. It is just possible that there may be nothing wrong. At this time of the year bees are constantly dying; more in some colonies than in others; and one with little experience might think the mortality excessive when only normal. It is nothing strange for a colony to lose half its bees or more in the course of the winter without anything being wrong. The simple fact that a pint or a quart of dead bees are found on the bottom-board is not a thing to awaken great anxiety.

Requeening—3 and 5-banded Bees—In-Breeding.

1. Does a queen begin to decline after her second season?

2. For profit, will it pay a bee-keeper best to requeen his colonies, or let them supersede their own queens?

3. Is there any difference in honey-gathering qualities between the 3 and 5-banded Italians?

4. I reared all of my queens from one queen. Do you think my future stock will be seriously affected by in-breeding, or would it be best to rear new blood for the swarms next season (of course, supposing I have any)? CALIF.

ANSWERS.—1. That's a question that cannot be answered by a single word. Some queens may be on the decline before the close of the first year. Some queens may be as good as ever when 3 or 4 years old. If a queen is kept in a very strong colony, she will reach the limit of her usefulness sooner than if in a weak colony. Perhaps it may be said as a general rule that in an apiary where colonies are kept large and strong a queen is not as good in her third year, but with smaller hives there may be no decline till the close of the third season. It is by no means certain that this is correct, and whatever may be the general rule the exceptions are many.

2. Opinions are divided, the tendency being toward the belief that it is fully as profitable to leave the matter in the care of the bees. When a queen has gone beyond her prime, the bees will be pretty sure to supersede her, and their superseding will be done with less hindrance to the work of the colonies than if you take charge of the case.

3. Some 3-banders are very much better than some other 3-banders, and the same is true of the 5-banders; so the best 3-banders are better than the poorest 5-banders, and vice versa. If you could strike a fair average of both kinds you might find no difference.

4. There is danger of in-breeding where all or nearly all queens are from one mother, the danger being greater if only a small number of colonies are kept. I should say that they would be affected in your case to such a degree that it would pay well to get a new queen from which to breed.

"**The Hum of the Bees** in the Apple-Tree Bloom" is the name of the new bee-keeper's song—words by Hon. Eugene Secor and music by Dr. C. C. Miller. This is thought by some to be the best bee-song yet written by Mr. Secor and Dr. Miller. It is, indeed, a "hummer." We can furnish a single copy of it postpaid, for 10 cents, or 3 copies for 25 cents. Or, we will mail a half-dozen copies of it for sending us *one new* yearly subscription to the American Bee Journal at $1.00.

AMERICAN
ESTABLISHED IN 1861 OLDEST BEE-PAPER IN AMERICA
BEE JOURNAL.
DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS.

PUBLISHT WEEKLY BY
GEORGE W. YORK & COMPANY,
118 Michigan Street, Chicago, Ill.

[Entered at the Post-Office at Chicago as Second-Class Mail-Matter.]

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VOL. 40. JANUARY 25, 1900. NO. 4

EDITORIAL COMMENTS

NOTE—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

The National Bee-Keepers' Union, in all probability, by Feb. 1, will be merged with the United States Bee-Keepers' Association, and the resulting society be known hereafter as the *National Bee-Keepers' Association.* There will then be but one general organization instead of two, as has been the case the past 15 years. It will have about 500 members to begin with, and ought to push on to 1,000 right away.

Mr. Newman presents in this number his 15th, and likely his last, annual report for the Union. He has done grand work in the position he has held and acceptably filled for so long a time. We clearly remember when the Union was organized for the purpose of defending its members in their rights. As Mr. Newman well says, it has been wonderfully successful in its efforts during the whole of its existence. If the amalgamated organization will always do as well, no fault can justly be found.

The Higginsville Hive-Cover is shown in the January Progressive Bee-Keeper by two very neat and distinct pictures, No. 1 showing the cover complete, and No. 2 "with one cleat removed to show how the joints are constructed." This latter picture shows the projecting shoulders to the main pieces, and the channeled ridge-pole to fit over them, so that no water can get thru without traveling uphill. This was given on page 760 of this journal for 1899, as an improvement by the A. I. Root Co., and to this the Progressive Bee-Keeper took exception. On page 824 (1899) it was explained that any error made was unintentional; and now that the illustration in the Progressive Bee-Keeper shows what the error was supposed to be, our worthy contemporary will see that we were merely quoting from Gleanings in Bee-Culture, and a second look on page 760 will show that a direct quotation was made from that journal, in which was distinctly claimed as an addition to the old Higginsville "that the two side or gable pieces have perpendicular shoulders, and the ridge piece is channeled so as to straddle over these two shoulders." So if there is any error in the case, it should be settled with Gleanings in Bee-Culture, and not with this journal.

Some Appliances for Moving Bees.—When Rambler holds himself down to bee-talk he is instructive and interesting. Ramble 179 in Gleanings in Bee-Culture is one of the right sort; that sort that doesn't ramble too far out of sight of a bee-hive. He takes a midnight ride with a friend on a load of bee-hives, and discourses as to some of the appliances used. A novel and exceedingly simple plan was taken to close the entrances, as follows:

> "The entrances to these hives were of the orthodox order, and clear across the front. Into this long space was thrust a piece of wirecloth cut about 1½ inches wide, and bent V-shape the entire length. The spring of the V ordinarily holds the piece from working loose, but our boss took the precaution to drive in a few nails to hold it secure. Screen wirecloth was placed over the entire top of the hive, with only a bee-space between it and the frames."

That did well enough for moving at night, but for daylight in hot weather Rambler would have a special cover for ventilation. One way is to have a rim 3 inches deep covered with wirecloth, so that the bees could cluster in that 3 inches over the frames. If hives are to be piled one upon another, then the top must be of board, and holes in the sides covered with wirecloth for ventilation. In this case the cover is made about 6 inches deep. As an additional protection against the heat, a light frame-work supports a covering of cotton-cloth sufficiently elevated to allow a free circulation of air over the hives, and this is made more soothing to the bees by being occasionally sprinkled with water from a spray-pump.

In moving bees an important "appliance" is the driver, and Rambler thinks this should in all cases be a bee-keeper. Then if a bee gets out, or some other thing goes wrong, there will not be a ruinous panic.

Apiculture and the Government. In the Annual Report of the Secretary of Apiculture for 1899, just to hand, we find the following:

WORK IN APICULTURE FOR 1899.

The work in apiculture has included further observations on honey-producing and continuation of the experiments of last year in the wintering of bees and tests of various methods of preventing swarming. The results thus far obtained appear in a revised edition of Bulletin No. 1, new series. Experiments in queen-rearing, which promise new results of practical value, are in progress. The acquisition of the Philippine Islands has greatly increast the interest which bee-keepers have long felt in the large honey-bee of the far East, the so-called giant East Indian bees, and very many requests for information concerning this species and applications for queens of these bees have been received. Private enterprise has tried to import these bees into the United States in the past, but all attempts have failed, and the Department has been repeatedly requested to undertake the work.

RECOMMENDATIONS FOR 1900.

I wish to repeat the recommendation of a year ago, that the sum of $2,500 be added to the lump sum of $20,000, provided for "Entomological investigations," the added amount to be used for the purpose of experimental investigations in apiculture. The result of a recommendation of a similar nature a year ago was the introduction into the clause appropriating for entomological investigations of the words, "*Provided*, That two thousand dollars of this sum may be expended for the purpose of experimental investigations in apiculture." As a matter of fact, in previous years certain of the funds of this Division have been expended for experimental work in apiculture, since this subject comes properly under the scope of "Entomological investigations." There seems, however, to be a great demand among the bee-keepers of the country for more work of this kind than the entomologist feels justified in undertaking by means of the lump fund. In other words, there is so much work which must be done upon injurious insects that the entire sum is none too great to carry it on. If the demanded work in apiculture is done at all well, additional means must be provided for it.

Should this latter recommendation be approved, and should the appropriation be made, it might be the means of importing into this country successfully one or both of the giant Indian bees which inhabit the Philippines. Bee-keepers have long been anxious to have the merits of these large Indian bees investigated in the proper way, and this would create a favorable opportunity.

We presume that "the proper way" referred to in the last sentence above, means that the "large Indian bees" will be experimented with first in their native land. Then if they prove sufficiently home-loving as to be content to stay in hives, and not all desert for the limb of some tree, it will be time to consider the possibility of their importation and use as honey-gatherers in this country—likely in Florida, Louisana and Texas, where they would perhaps do the best.

Bumble-Bees for Australia. — The San Francisco Weekly Bulletin reported that in January, 1899, the New South Wales department of agriculture had a short time before received a consignment of bumble-bees by steamer from New Zealand. They were liberated in the Botanic gardens and in the Linnean Society's grounds at Elizabeth.

Selling Granulated Extracted Honey.—In spite of the general opinion that the only plan to run successfully a retail trade in extracted honey is to sell it in the liquid form, and gather up for remelting that which granulates, there are some who insist that the public can be taught to do their own melting. There can be no question as to which way gives the seller the least trouble after a set of customers has been so taught, and the fact that the thing *has* been done is a very strong argument in favor of the belief that it can be done.

It is well known that the late C. F. Muth did a very large business in retailing extracted honey, and his clientele were so trained that they preferred the honey in the granulated form. He was saved all anxiety about this honey granulating too soon, all trouble of gathering up from groceries or private customers any that had begun to granulate—in fact, so far as Mr. Muth was concerned, it was the same as if he had honey that never candied.

Among those at the present day who advocate selling in the granulated state, there is probably no one more prominent than R. C. Aikin, and his advocacy is entirely consistent in view of his own experience. Those who have a permanent residence, and expect to have the same customers year after year, may well consider the advisability of following Mr. Aikin's example. He says in the Progressive Bee-Keeper:

"Do not tell me the people will not have it so—they *will* have it so, if we just put it up that way and keep it in the markets. The main trouble is introducing it where the idea is new; but that is easy, for it is so much better for the grocer that he becomes your voluntary agent in showing and explaining, and just get a customer to try a pail or two, and the thing is done.

"A little country town of probably less than 2,000 population, a farming community with very few well-to-do farmers—such is my territory for trade, and honey in pails, and candied, *sells right along*. If my trade increases year by year as it has in the past five years, it will soon take carloads to supply it annually. Selling customers glass and other expensive packages with a *little* honey in them will soon disgust the masses with buying honey, when they can get a hundred pounds of sugar in a 5-cent sack. Study between the lines here and you will discover why honey does not become a staple—it *can* and *will*."

The Weekly Budget

BECAUSE THEY BE.

Yes, flies are flies, because they fly,
  And fleas are fleas, because they flee;
And that is very clearly why
  Bees are bees, because they BE.

—Modern Farmer.

* * * * *

"A. B. WILLIAMS & Co., of Cleveland, who some time ago furnisht quotations of the Cleveland honey market for Gleanings in Bee-Culture, have made an assignment; and from all that we can learn their creditors will get very little. The liabilities appear to be from $10,000 to $12,000, and assets about $1,500. We have not publisht their quotations the past season, because we were not fully satisfied with the way they treated their shippers. The principal complaint was their tardiness in answering letters. We did not have a sufficiently definite case against them to warrant our publishing a word of caution, yet we did not have sufficient confidence in them to continue publishing their quotations. They had 10 cases of our honey unsettled for when they failed. We know of several others who have likewise suffered loss. When I called on them about three weeks ago they had very little honey in the house, but I do not know how much they had sold, and had not yet settled for. I hope very few have lost at their hands."

We were surprised to find the above in Gleanings in Bee-Culture for Jan. 15. Nothing further need be said, we think.

* * * * *

MR. WM. H. EAGERTY, was born in Onondaga Co., New York, moved to Iowa later, where he engaged in the bee-business, and then about five years ago went to Republic Co., Kans., where he now lives and keeps bees. He has nearly 70 colonies, which he looks after both for pleasure and profit. He wrote thus of his work last September:

"I have had four good years and only one failure. I try to do my part or share of the work. So many were going into the business in a ship-shod way that we should have been swept away with the bee-disease known as foul brood. But now they will 'about ship,' and send for home quarters, I think. I never object to persons going into the bee-business if they will only prepare themselves well for the work, and not just murder the bees thru ignorance."

Wm. H. Eagerty.

Mr. Eagerty has written some for the bee-papers, and we have no doubt he understands the business all right. We do not know him personally, only that he has been one of our regular subscribers for years.

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BEEDOM BOILED DOWN

Queens Slow About Laying.—The Australasian Bee-Keeper says:

"We had one instance this season of a queen starting to lay on the 26th day after emerging, and many instances of their commencing on the 20th and 21st day. Usually queens lay on the 10th day. Cold spells and unsettled and wet weather, and no honey-flow, was the cause."

Leave Plenty of Stores for the Bees.—A statement made by Allen Sharp in the British Bee Journal, is worthy of occasional repetition:

"I have tried all ways of managing bees, and all methods of feeding them, and I say without any hesitation that the best plan is to leave sufficient naturel stores in every hive to last until honey comes in again. Colonies so provided in autumn require no further attention until supering time arrives, and they are the ones which yield best results."

Locality.—Editor Hill says in the American Bee-Keeper:

"The noticeable inclination upon the part of some writers to ridicule the 'locality' idea is a clear evidence of limited experience. The young man who looks forward to apiculture as his life vocation would do well to receive his training in the country in which it is proposed to operate. Yet, our ability to choose wisely in the matter of a location is in proportion to the diversity of our observation and experience. Causes and effects in different localities are hardly less different in bee-keeping than are the varieties of vegetation and soil."

Glass Sample Cards for Grading.—Here is a suggestion by W. H. Pridgen, in the Progressive Bee-Keeper, that has at least a prepossessing appearance:

"While Dr. Miller and the Root Company are discussing the color-sample-card question, if there is sufficient demand to justify having such a thing, why not go ahead and have small panes of glass made varying in tints from clear to the shade of the darkest honey, viewed thru a flask ½ inch thick. By having one flask or flat bottle of a given thickness, and a set, say 12 different shades, beginning with white for number one, any one could grade his extracted honey by color and number."

Chaff vs. Single-Walled Hives.—In the Progressive Bee-Keeper, R. C. Aikin expresses himself as in doubt as to which is best. He thinks there are times when a chaff hive may be about equal to a refrigerator for a weak colony. He says:

"I know that a colony in a single-walled hive will respond more quickly to the outside temperature in the matter of heat, and the same as to cold; but, still, that does not prove one or the other. The difficulty seems to be to protect against cold, and not against heat, too. Sunny, warm days will dry out a single-walled hive when it will not a chaff one, and in such case, unless a *strong* colony is inside, the chaff is a detriment.

"I say the chaff becomes a detriment to *weak* colonies. If there could always be a *very* strong colony for the time of year, then the packt hive is all right, for it retains the heat of the colony against outside cold; but colonies good, bad and indifferent as to strength, will show varied results about wintering, and more particularly about building up in early spring. With the opening of spring, and the first warm, pleasant days, colonies in single-walled hives rouse up and are the first to have queens to lay freely. Weak colonies suffer with cold nights, and general cold changes,

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Root's Column

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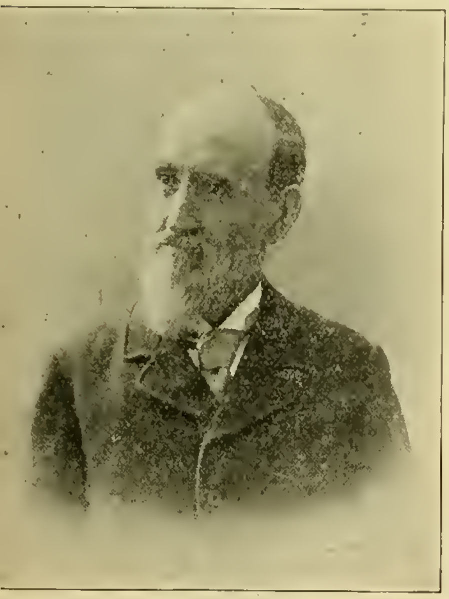
Mr. E. R. Root:—I have read former editions of the A B C of Bee-Culture, and I have carefully read all of the latest. It is so greatly improved, and brought down to date, brimful of the latest experiences of the most successful



F. Danzenbaker.

methods in all departments, that it might well be rechristened, "Bee-Keeping from A to Z." The hundreds of expensive and beautiful illustrations display to the eye what the text conveys to the mind, in a way to cover the entire field of apiculture, for beginners and veterans alike.

It is worth many times its cost to a beginner with but a single colony, and to those who have handled hundreds of colonies half a lifetime as well. It would have been worth thousands of dollars to me if I could have had such a book 40 years ago, and I would not take $50 for the copy I have now if I could not get another.

If it could be placed in every school and library in our land, for the instruction of the masses, it would greatly increase the consumption as well as the production of honey, adding greatly to the health and wealth of the people.

F. Danzenbaker.

Washington, D. C. Jan. 8, 1900.

The A B C of Bee-Culture is sold by all dealers in bee-keepers' supplies, or will be sent postpaid on receipt of $1.20. When sent by freight or express with other goods, the price is $1.00.

The A. I. Root Co., Medina, Ohio.

and if heavily packt, do not respond to outside warmth as more exposed colonies."

In reply, Mr. Doolittle seems to think that colonies in chaff hives will not come out weak in the spring, and says:

"With outdoor wintering not one colony in ten will come out strong when wintered in single-walled hives, in this locality, while with chaff hives, those having two or three inches of chaff packing, nine out of ten will be in good working order, and in two weeks' time will have double the amount of brood of that of the strong one, in the single-walled hive. Single-walled hives are only fit for cellar-wintering in this locality, and even then they are better off left in the cellar till settled warm weather comes. A trial of both side by side for the past 25 years, shows these things to be facts about here. And herein we have *locality* making all of the difference."

Points in Bees.—For the past few years the most important point to breed for has seemed to be color—at least in a great many cases. Queen-breeders tell us that purchasers have wanted more than anything else yellow bees. Now there seems to be a swing of the pendulum toward bees that have good qualities aside from color. Editor Root, in Gleanings in Bee-Culture, gives his idea of five points in the order of their importance, upon which a Stray Straw discourses as follows:

"Your classification of points for bees, Mr. Editor, is good: 1. Ability to get honey; 2. Good wintering ability; 3. Disinclination to swarm; 4. Good temper; 5. Good color. Posssbly some other points ought to come in and shove color lower down, as whiteness of surplus combs. I rather think I'd want 2 and 3 to change places, making non-swarming come next after honey-getting."

Some Pointers on Queen-Rearing are given by W. H. Pridgen in Gleanings in Bee-Culture. He favors having the upper story for queen-rearing separated by division-boards into three apartments, then if accidentally a virgin queen is present there will not be the loss of so many cells. Instead of transferring a larva, he prefers transferring the cocoon or bottom of the cell, larva and all. Select larvæ too small to transfer otherwise; transfer with the cocoon, give to bees taken from a hive with a laying queen, said bees having been shaken from the combs six hours previously, and 24 hours later give to the cell-builders. Or, take larvæ of the size usually transferred, transferring with cocoon, putting at once in upper story without first giving to queenless bees for 24 hours. Either of these two ways will save using up cells to furnish royal jelly. Instead of giving queen-cells to nuclei, give just-hatcht queens. It is quite possible that instead of having the combs for cells between combs with young brood, it may be better to have them between combs containing sealed brood.

Avoiding Obstruction of Queen-Cells, especially at swarming-time, has been a desideratum. F. L. Thompson tells in the Progressive Bee-Keeper how Geo. E. Dudley manages to have a queen caught in a trap when a colony swarms, and still allow free egress and ingress for the workers, as follows:

"He uses two entrances, to only one of which he applies the queen-trap (an ordinary trap, without any special modification). The queen always comes out thru this entrance, and is always caught in the trap; but the workers return from the fields thru the other entrance, the unobstructed one, tho they use both entrances indifferently when they leave the hive. This is accomplisht by a modification of the bottom-board, so simple that I believe it would pay manufacturers to make all their bottom-boards on this principle. About two-thirds of the board, the rear end, is composed of a solid board, as usual; but the front third is composed of two ¼-inch pieces, the top of the upper one being on a

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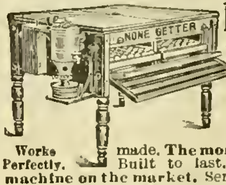

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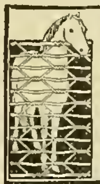

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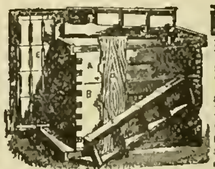

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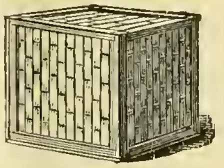

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4A3t

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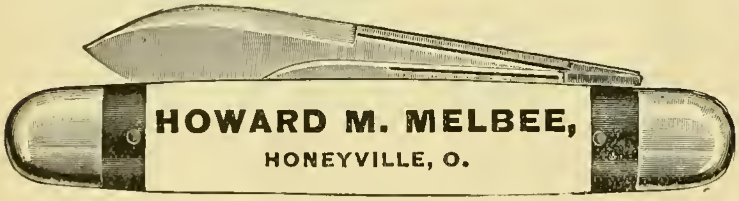
Your Name and Address on one side—Three Bees on the other side.



[This Cut is the Full Size of the Knife.]

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty. The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your Pocket-Knife will serve as an identifier; and in case of death, your relatives will at once be notified of the accident.

How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

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level with the top of the rear solid portion, and the bottom of the lower one on a level with the bottom of the rear portion. This leaves a space or hollow passage between them, ¼ inch or more deep, and the width of the hive, and extending about 7 inches back of the ordinary entrance, which is provided for as usual by a bee-space on top of the bottom-board. The underground passage, as it might be called, is connected with the interior of the hive by two transverse slots, each about 2½ inches long, where the solid portion is met. These slots are under the *side frames*, one slot at each side of the hive, and that is the secret of it. The side combs usually contain honey rather than brood, and the queen is usually not on those combs, but on the center ones, containing brood, and when a swarm issues she makes a straight shoot from the brood-combs to the only entrance that appears to be available—the ordinary entrance, where the trap is placed. The bees, as aforesaid, always return thru the lower entrance when bringing home honey or pollen, hence it does not matter how much the upper one is blocked up by the trap and by masses of bees hanging out. Mr. Dudley has tried this on a large scale two seasons without a single failure, and has made 200 such bottom-boards for future use."

GENERAL ITEMS

Selling Extracted Honey, Etc.

My method is to extract all unfinisht sections and put it into two-quart tin-pails holding 4½ pounds of honey. Sell pail and honey for 50 cents. The pails cost $5.75 per gross, so it gives me 10 cents a pound. I find no trouble to sell it the second time to the same customer. I warrant it strictly pure.

The past was the poorest season since I have kept bees. I had only about 60 pounds from 65 colonies. I had to feed up for winter. We are having a very mild winter so far. I hope to see the bees come out well in the spring, for I delight to see bees lively, and make the air hum with their activity.

The ground is covered here with snow now. I am afraid that a good many bees will starve thru this section.

I don't see how any bee-keeper can get along without some bee-paper. It seems to me as if they would be shut up from the outside, and would not know what their fellow bee-keepers are doing.

G. H. Adkins.

Essex Co., N. Y., Jan. 16.

Selling Honey in Home Market.

My bees are in a locality where they surely do well in one respect—that is, they increase. Our winters are not cold enough to even thin them out good. To illustrate: I askt the principal merchant here if he could not handle some of my honey. His reply was, "No, no, every family in the town has bees!" That was a year ago. I bought, the past summer, two lots of bees, one in the town containing 50 colonies, 8 of which were in good hives, and the rest in boxes that took the regular size frame, or, rather, were built for them, but not used, as there were sticks instead. There were 36 supers and over two pounds of foundation, all for $25. The other lot in the same vicinity (9 colonies) I got for 100 pounds of cheap honey that I retail to the Mexicans at 5 cents per pound, and the latter bees were hauled to my place.

In Las Cruces I askt a merchant to handle my honey, and he replied that honey was sold on the streets, and that the stores could not sell a pound per month. So it was with some misgivings that on June 10 I took some comb and extracted honey to Las Cruces. I had 28 sections, 3 half-depth frames, and 4 quart-jars. The sections brought $3.60, frames 90 cents, and the jars $1.00. (I have since raised the quarts 5 cents.) I was agreeably surprised to find nearly every one to whom I showed honey wanted it. I could have sold more. The following Saturday (June 17) I sold all the comb honey I took, and some extracted, amounting to $4.55; the 24th, $5.05. July 1 I workt for a friend, so that he could look after his peach crop. July 8 I sold $5.25; July 22, in Mesilla Park and Las Cruces, $4.15. I found sales rather slow, as fruit was very plentiful, and was taking the place.

I now go every other Saturday to Las Cruces with honey, as much to hold a few good customers as anything, altho I trade there. I find for one batching on a bee-ranch in the country, with only people of a foreign tongue for neighbors, the money received is not by any means the only source of profit.

I am starting in the chicken business in a small way, and want hens. I found one of my customers raising chickens for the table, and I exchanged roosters for pullets. Last but not least, we make pleasant acquaintances, see bright faces and happy homes, and the children run shouting to their mothers, "Here comes the honey-man!" EDW. A. CHANDLER.

Dona Ana Co., New Mexico.

Pretty Poor Year for Honey.

One year ago I went into winter with seven colonies, and lost only one. I wintered them on the summer stands in chaff hives. The past year has been pretty poor for honey, considering the late swarming. They did not commence swarming till the last of May, and it lasted until the middle of June. I got about 30 pounds of surplus honey. All went into winter quarters with brood-chambers well filled with honey. I bought the wedge top-bar frames, and don't want any more of them. The old Hoffman is good enough for me. ASA RICE.

Muskegon Co., Mich., Jan. 7.

Bees Wintering Splendidly.

My bees are wintering splendidly so far. We had a splendid flow of honey from Spanish-needle in September, so the bees are in fine condition for winter. I have 18 colonies, and got 50 pounds of comb honey and one swarm the last season.

GEO. H. WEED.

Carrol Co., Ill., Jan. 17.

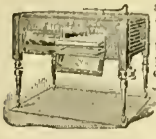
Inky Drops and Smoker Fuel.

I have been making bee-smokers for 21 years, and using them in my own apiary 22 (excepting five years when I had no bees), and while producing comb honey every season (excepting as above) I do not remember having the inky spots referred to on a single section. For the last five years I have used tall sections exclusively, and I do not use bee escapes. During four years of that time I have used a 4-inch smoker, and know that not a single section or anything else has been injured by the drops mentioned.

The first thing that will be askt after reading the above, will be, What does Bingham use for fuel? And it is proper here to explain, that in the first place, convenience and cost decide that matter, as my smokers have always burnt anything put into them. The 4-inch is so large you can pour the smallest chips from a basket into it. So I scrape up a lot of dry chip-dirt in my woodshed, and drop it on a wire-cloth screen and shake out all the sand and real dirt; then pick off all the very large pieces of bark and use the balance for smoker-fuel.

In damp weather probably it would be better to dry the stuff I use, but it burns well enough, and so I don't take any pains to dry it. But if the sun is bright, I frequently set the fuel-box out where it will be handy and in the sun.

I should prefer to have the fuel hot from a stove-oven or the bright sun. A wax ex-



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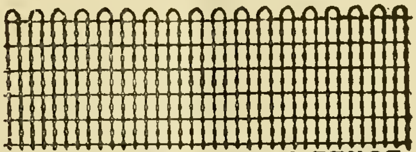

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Crimson Clover	55c	.90	2.00	3.50

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AMERICAN BEE JOURNAL, 118 Mich. St., Chicago, Ill.

tractor would be a fine thing for the job, and handy.

I burn all the chips and make all the smoke I can when I handle bees, but I do not use a veil, and rarely get a sting.

The moral effect of smoke in an apiary can not be measured. If your smoker makes lots of smoke without puffing, you can handle your bees without smoking them much; but if you don't have a lot of smoke ready-made you will have to smoke them down, because, like the English in the Transvaal, you were not ready, and the bees got mad, and wouldn't let up till conquered. T. F. BINGHAM.

Clare Co., Mich.

Something from Florida.

On the journey from Peoria, Ill., to Mobile, Ala., I watcht for bee-hives, and only saw from the car windows a very few in Illinois. The market for honey in Mobile is undevelopt, as the demand for it has never been created.

Since my arrival here, I visited a resident who has a small apiary. I inquired how his bees had prospered during the past summer. He said:

"The February freeze last winter destroyed the fruit-bloom, and when it bloomed again in March the frost took it, and also the ti-ti. The February freeze also destroyed the bloom of the saw-palmetto, and there was no bloom at all. I fed my bees much sugar to keep them from starving, but I'll never do it again; if they can't make a living they may go. Three of my weak colonies were destroyed by moths."

At a store here extracted honey is drawn thru a gate from a barrel, and retailed at 20 cents per quart. It is good honey, and the dealer says weighs 12 pounds to the gallon. This honey was produced on the Choctohatchie, near Freeport, by an apiarist who owned 300 colonies. This honey was gathered last year.

Tho there was no surplus honey gathered in this locality the past season, on account of the previous winter's cold and summer's drouth, yet I am told there was some surplus at Wewahitchka. The land there is rich and damp, and tupelo trees yield much honey; also vines growing in the water, and are lifted into the sunshine by the tall, dead trees. Wewahitchka is an Indian word signifying "eye-glasses," as these two lakes are joined together like them. These lakes are 35 miles long, and from 2 to 17 miles wide. The land adjoining is very rich, like the delta of the Nile, made by the overflow of the river, which leaves a rich deposit. MRS. L. HARRISON.

Washington Co., Fla., Jan. 9.

Not a Good Year for Honey.

The past was not a very good year for the bees. Last winter's losses were quite heavy. I lost 16 out of 41, increast to 51, and took about 35 pounds per colony, spring count, of comb honey. All of my honey is sold in the home market at 12½ cents per pound. F. E. HENRY.

Harrison Co., Iowa, Jan. 8.

Manufactured Comb Honey Again.

By request of Mr. M. E. Wolfe of this place, I write for information in regard to manufactured comb honey in one-pound sections, etc. It seems as if the majority of the people of this city, and about nine-tenths of the merchants, believe that the comb can be manufactured, filled with manufactured honey, and then capt or sealed over and put in the one-pound sections, just the same as is done by the bees. Mr. Wolfe wrote Rev. E. T. Abbott about the matter, and in answer to the letter Mr. Abbott said such an article as manufactured comb honey was not in existence, and that he would give $500 for one pound of such honey, with the information as to where it was manufactured.

Mr. Wolfe also wrote Mr. A. H. Duff about the matter, and he also said that such a thing as comb honey being manufactured by machinery and put on the market in marketable shape, the same as the comb and honey made by the bees, was not in existence. Mr. Duff also stated that the "American Bee-Keepers' Association" has a standing offer of $1,000 for one pound of manufactured honey, which has not been taken, altho standing for 15 years. Does Mr. Root still offer $1,000 for one pound of manufactured comb honey? If he does, that would make $2,500 for any one that will manufacture one pound of comb honey, the same as is done by the honey-bees.

As for Mr. Wolfe and myself, we take the stand that it is a mistaken idea, but for the benefit of others and the public in general we take this method of having it explained thoroly and satisfactorily to all, thru the columns of your paper. It is surprising how large a percent of the public believes that comb honey is manufactured and placed on the market. This subject should be more thoroly discust, so as to correct such false ideas that so many people are laboring under. L. WAYMAN.

Labette Co., Kan.

[Mr. Wayman, you can assure Mr. Wolfe that there is no such thing as manufactured comb honey, and likely never will be any. The bee-keepers' association never has made the offer mentioned; Mr. Root did, and does yet, we believe. But we are certain it was not made with the idea that he wanted people to go ahead and manufacture comb honey so as to get the reward offered, but simply if any one heard that there was such an article being manufactured, he would give $1,000 for a pound of it.

We might say that a bee-paper is hardly the proper place to deny the existence of manufactured comb honey, but rather in the newspapers where it is kept going. Readers of bee-papers are hardly so foolish as to believe such a falsehood.—EDITOR.]

Honey Crop Generally Light.

As a rule the honey crop in this locality was light, altho a few apiarists report a good yield. I commenced last spring with three good colonies and one weakling. I took off a surplus of about 70 nicely-filled sections. I use the fence and plain sections, and like them very well. I increast to eight colonies, and had two swarms leave for the woods. I shall try dividing another year. I lost one colony this fall by the combs melting down. IRA LUBBERS.

Sheboygan Co., Wis., Jan. 9.

Prickly-Ash Honey Bitter.

I can report 1,800 pounds of comb honey for 1899, and I sold it all for cash to a New York firm for 12 cents a pound. It was all bitter honey that I could not sell here. It was gathered from prickly-ash bloom.

I would not do without the American Bee Journal if it cost double the subscription price. HENRY K. GRESH.

Elk Co., Pa., Jan. 12.

Best Season in Eight Years.

Another year has past, and it was the best I have had in eight years since I have been in the bee-business. I started last spring with 63 colonies, increast to 83, and extracted about 8,000 pounds of fine honey, which I sold long ago. I could sell that much more if I had it.

Our honey-flow commenced July 7, and continued until Sept. 12, when it turned cold, and we had a few hard frosts which froze everything that was in bloom. After that we had three weeks of fine weather—it got so warm that some white clover bloomed, and also some dandelion. Last winter was so cold that it froze almost all the clover in this vicinity, but the seed came up again, and the pastures are as thick as ever, which looks fine so far, and if clover does not freeze this winter the prospects will be good for another year.

The colony that I had on scales gained

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Given for Sending ONE New Subscriber:

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4A1t Please mention the Bee Journal.

Convention Notices.

California.—The tenth annual convention of the California State Bee-Keepers' Association will be held in the Chamber of Commerce, at Los Angeles, Feb. 21 and 22, 1900. It will be called to order at 1:30 p.m., Feb. 21. At this time the railroads will sell round-trip tickets to Los Angeles and return for one and one-third fare, on account of the Industrial, Mining, and Citrus Exposition, which will be held in Los Angeles. Tickets good for 10 days. Let every bee-keeper bring some hive, tool or experience that he has found valuable, and we will have a good convention. J. F. MCINTYRE, Sec.

Sespe, Calif.

Wisconsin.—There will be a joint convention of all Wisconsin bee-keepers' societies at the 16th annual meeting of the State Bee-Keepers' Association, Feb. 7 and 8, 1900, in the State Capitol, at Madison, Wis. Many prominent bee-keepers will be there and take part.

Excursion rates of a fare and one-third for the round-trip, for railroad tickets purchast in the State, for over 50 cents each. Be sure to bring a certificate of each ticket purchast so it can be signed Feb. 8, in Madison, and entitle the holder to a third fare return.

The State Horticultural and State Cheese-makers' Associations will meet on the same date in the Capitol.

Don't forget the date—Feb. 7 and 8. It will pay you to attend. N. E. FRANCE, Sec.

Platteville, Wis.

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Bee-Plant Seed!

(*Cleome integrifolia.*)

...FREE AS A PREMIUM...

The A B C of Bee-Culture says of it: "This is a beautiful plant for the flower-garden, to say nothing of the honey it produces. It grows from two to three feet in hight, and bears large clsuters of bright pink flowers. It grows naturally on the Rocky Mountains, and in Colorado, where it is said to furnish large quantities of honey."

We have a few pounds of this Cleome seed, and offer to mail a ¼-pound package as a premium for sending us ONE NEW subscriber to the American Bee Journal, with $1.00. Address,

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118 Michigan Street, - CHICAGO, ILL

327 pounds, but it did not swarm. I had another colony that filled five 10-frame Langstroth hive-bodies; the five were all on the hive at one time. That colony did not swarm, either. I had some colonies that swarmed three times, and then stored some honey in the fall. Jacob Wirth.
Henry Co., Ill.

Expects a Honey Crop this Year.

Bees in this section (north half of San Diego County) are generally in pretty good condition, bringing plenty of pollen and a little honey. We had a 4½-inch downpour of rain a week ago, and feel reasonably sure of some honey next spring. All honey-plants look well. Days are bright, clear and warm—with the temperature about 65° from 10 a.m. to 3 p.m.

G. F. Merriam.
San Diego Co., Calif., Jan. 11.

Cayuga Co., N. Y., Convention.

The bee-keepers of Cayuga County, N. Y. met in Auburn, Dec. 21, 1899. At 10:30 a.m. the meeting was called to order by Pres. N. L. Stevens, after which he read a paper touching on different points of progress in bee-culture. Then the following officers were chosen for the ensuing year: President, N. L. Stevens; 1st Vice-President, Edwin Austin; 2nd Vice-President, J. S. Seccomb; 3rd Vice-President, A. B. Comstock; Secretary, J. O. Pierson; Treasurer, T. Brigdon.

Each member was requested to give the number of colonies, spring count and fall count, number bought, and number of pounds of comb and extracted honey produced.

In the afternoon the question-box was taken in hand by Mr. Frank Benton, he reading each question and giving his opinion; then it was an open question for any member to discuss. After the question-box Mr. Benton gave a lecture, illustrated by drawings on a blackboard, of the fertilization of blossoms by the honey-bee, which lasted until the end of the session.

Cayuga Co., N. Y. F. E. Whitman.

Bees Cellar-Wintering Nicely.

My 80 colonies in the cellar seem to be getting along nicely. My loss last winter and spring was 123 colonies out of 166. It is to be hoped that we will not have such a winter again. W. C. Nutt.
Hardin Co., Iowa, Jan. 8.

Wintering Well in the Cellar.

Bees are wintering well in the cellar. I put in 126 colonies last fall. We have no snow. The temperature was 50° above zero the day before Christmas.

S. C. Swanson.
Goodhue Co., Minn., Jan. 5.

Bees in Fine Condition.

Bees had a general flight the 7th, and have been flying more or less all the week since then. We are having a splendid January. Bees are in fine shape to date. S. A. Matson.
Nodaway Co., Mo., Jan. 13.

Prospects Good.

The weather is fine. Last Friday and to-day the bees had good flights, and appear to be in fine condition. The sky was clear and the thermometer at 48 degrees. The prospect is good so far. Joseph Mason.
Dekalb Co., Ill., Jan. 7.

Report for Last Year.

Last year I got just an even ton of fancy comb honey from 20 colonies, spring count, and increast to 44 colonies, to say nothing of 10 prime absconded swarms, and a novice attendant. E. Woodall.
Lake Co., Mich., Jan. 13.

BEE-BOOKS

SENT POSTPAID BY

George W. York & Co. 118 Mich. St. Chicago.

Bees and Honey, or Management of an Apiary for Pleasure and Profit, by Thomas G. Newman.—It is nicely illustrated, contains 160 pages, beautifully printed in the highest style of the art, and bound in cloth, gold-lettered. Price, in cloth, 75 cents; in paper, 50 cents.

Langstroth on the Honey-Bee, revised by Dadant.—This classic in bee-culture has been entirely re-written, and is fully illustrated. It treats of everything relating to bees and bee-keeping. No apiarian library is complete without this standard work by Rev. L. L. Langstroth—the Father of American Bee-Culture. It has 520 pages, bound in cloth. Price, $1.25.

Bee-Keepers' Guide, or Manual of the Apiary, by Prof. A. J. Cook, of the Michigan Agricultural College.—This book is not only instructive and helpful as a guide in bee-keeping, but is interesting and thoroly practical and scientific. It contains a full delineation of the anatomy and physiology of bees. 460 pages, bound in cloth and fully illustrated. Price, $1.25.

Scientific Queen-Rearing, as Practically Applied, by G. M. Doolittle.—A method by which the very best of queen-bees are reared in perfect accord with Nature's way. Bound in cloth and illustrated. Price, $1.00.

A B C of Bee-Culture, by A. I. Root.—A cyclopædia of 400 pages, describing everything pertaining to the care of the honey-bees. Contains 300 engravings. It was written especially for beginners. Bound in cloth. Price, $1.20.

Advanced Bee-Culture, Its Methods and Management, by W. Z. Hutchinson.—The author of this work is a practical and entertaining writer. You should read his book; 90 pages, bound in paper, and illustrated. Price, 50 cents.

Rational Bee-Keeping, by Dr. John Dzierzon.—This is a translation of his latest German book on bee-culture. It has 350 pages, bound in paper covers, $1.00.

Bienen-Kultur, by Thos. G Newman.—This is a German translation of the principal portion of the book called "Bees and Honey." 100-page pamphlet. Price, 25 cents.

Bienenzucht und Honiggewinnung, nach der neuesten methode (German) by J. F. Eggers.—This book gives the latest and most approved methods of bee-keeping in an easy, comprehensive style, with illustrations to suit the subject. 50 pages, board cover. Price, 50 cents.

Bee-Keeping for Beginners, by Dr. J. P. H. Brown, of Georgia.—A practical and condenst treatise on the honey-bee, giving the best modes of management in order to secure the most profit. 110 pages, bound in paper. Price, 50 cts.

Bee-Keeping for Profit, by Dr. G. L. Tinker.—Revised and enlarged. It details the author's "new system, or how to get the largest yields of comb or extracted honey." 80 pages, illustrated. Price, 25 cents.

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HONEY AND BEESWAX

MARKET QUOTATIONS.

Chicago, Jan. 8.—We quote best white comb at 15c; an occasional small lot of fancy sells at 16c; off grades of white, 12@14c; ambers, 10@12c. Extracted, 8@9c for fancy white; 7@8c for amber; 6@7c for dark grades. Beeswax, 27c.

Receipts are larger and the demand is not as good as it has been. R. A. Burnett & Co.

Cincinnati, Dec. 7.—There is a good demand for all kinds of extracted honey. White clover and basswood sell at 8@8½c; amber and Southern, 6@7c, according to quality and package. Fancy comb honey in no-drip shipping-cases sells at 15@16c; darker grades hard to sell at any price. Beeswax, 26c. C. H. W. Weber,
Successor to Chas. F. Muth & Son and A. Muth

Los Angeles, Jan. 4.—1-pound frames, 12½@15c; 2-pound cans, 2 dozen in case, per dozen, $2.50; 2-pound glass pails, per dozen, $2.50. Extracted, water white, 60-pound tins, per pound, 8½c; light amber, 7½@8c; dark amber, 7½c. Beeswax, 25@26c.

Kansas City, Jan. 19.—We quote No. 1 white comb, 13½@14c; No. 2, 13@13½c; No. 1 amber, 13@14c. Extracted, white, 7½@8c; amber, 7@7½. Beeswax, 20@22c.

The supply and demand for comb honey is light. The demand for extracted since the first of the year not so good. C. C. Clemons & Co.

Buffalo, Jan. 5.—Market bare of fancy white one-pound comb honey, and selling at 15@16c; fair to good, 12@14c; buckwheat, dark, poor, etc., 8@10c. Fancy pure beeswax, 28@30c.

Batterson & Co.

New York Dec. 10.—Demand is very good for all grades of comb honey. Receipts are somewhat light and not up to former years. We quote:

Fancy white, 15 cents; No. 1, white, 13@14c; amber, 11@12c; and buckwheat, 9@11c., as to quality. Extracted remains firm at following prices: California white, 8½c; light amber, 8c; white clover and basswood, 8c; amber, 7½c. Very little trade for extracted buckwheat as yet. Southern, fancy, 7½c per pound; other grades, as to quality, from 70c to 75c gallon. Beeswax quiet at 26@27c. Hildreth & Segelken.

San Francisco, Jan. 10.—White comb, 11½@12½c; amber, 8@10c. Extracted, white, 7½@8c. light amber, 7@7½c; amber, 5@5½c; Beeswax, 26@27c.

Offerings and demand are both light, and this must continue to be the case until the end of the season. Business is necessarily of a retail character, but at generally firm figures, especially for choice extracted, which is in lighter supply than comb.

Boston, Jan. 12—We quote as follows: Fancy white, 16c; A No. 1, 15c; No. 1, 13@14c; buckwheat will not sell in this city. Extracted, light amber, 7@8c. Demand is very light.

Blake, Scott & Lee.

Albany, Dec. 10.—We quote: Fancy white comb, 15c; No. 1 white, 13@14c; mixt, 11@13c; buckwheat, 10@11c. Extracted, white, 8@9c; mixt, 6½@7c; dark, 6. Beeswax, 26@28c.

MacDougal & Co.
Successors to Chas. McCulloch & Co.

Omaha, Jan. 4.—Prices remain unchanged. Fancy white is still moving slowly at 14@14½c. Extracted, white, 8½c. Now that holiday trade is over and dealers have taken their inventory, they soon will be thinking of replenishing their stock and more lively trade is anticipated in the near future, but no material advance is lookt for during January. Peycke Bros.

Detroit, Jan. 11.—Fancy white, 16@17c; No. 1, white, 14@15c; dark amber, 10@13c. Extracted, white, 8c; dark and amber, 6@7c. Beeswax, 24@25c. M. H. Hunt & Son.

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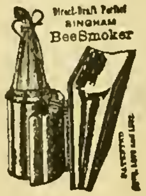

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DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS.

40th YEAR. CHICAGO, ILL., FEBRUARY 1, 1900. No. 5.

CONTRIBUTED ARTICLES

Apiary of Mr. Tofield Lehman.

BY THE EDITOR.

THE picture shown herewith is a part of the home apiary of 46 colonies, belonging to Tofield Lehman, of Fayette Co., Iowa. The crop of honey in 1899 from them was 2,000 pounds, which, he says, was a poor year.

In the picture Mr. Lehman is standing by the side of the honey-extractor, and the girl in front of the extracting-house is his 14-year-old sister.

The hives in the apiary are 6 feet apart in the rows, and the rows 16 feet apart.

He has kept bees for 7 years, and has been successful with them all that time.

One of his neighbors askt him how much honey a good colony of bees could store in one day during a good honey-flow. Mr. L. told him that some of his best colonies stored in one day 14 pounds each, during the basswood flow the past season. He could hardly believe it. Mr. L. weighed the colonies early in the morning before any of the bees left the hive, and then weighed them again in the evening when all had stopt flying. Some of the best colonies were then 14 pounds heavier than in the morning.

In 1896 Mr. Lehman sold $22.50 worth of fine honey from a single colony. It produced 150 pounds which brought 15 cents per pound that year.

We have had some of the extracted honey produced by Mr. Lehman, and it was some of the finest we have ever seen—very thick in body, and of a rich flavor. If all who produce extracted honey would be as careful to put out as well-ripened an article, there would be less complaint against honey in the extracted form. Last fall we purchast fifteen or twenty barrels of honey from Wisconsin, and lately we have had to reliquefy it, and transfer to 60-pound cans, because of the honey fermenting and really bursting out the heads of the barrels. Undoubtedly this honey was extracted before the bees had ripened it. No one who has had the experience with extracted honey in barrels that we have had would ever favor using barrels for holding honey. Of course, Mr. Lehman uses cans, tho it is not so necessary in his case as in that of some others who are not careful to put out only well-ripened extracted honey. We hope the time will soon come when wooden barrels will be used no more for shipping honey.

Apiary of Mr. Tofield Lehman, of Fayette Co., Iowa.

Producing and Marketing Honey—Shall it be Comb or Extracted?—Analysis of the Subject.

BY R. C. AIKIN.

THE production of extracted honey will surely increase. Comb is consumed principally as a luxury, and so long as it sells at retail for 10 to 25 cents while other sweets, as sugar, sell at about half the average of the comb, it will not be other than a luxury. Other reasons why it is a luxury, is the greater skill required to produce it, making the cost greater, and the difficulty of keeping it indefinitely without greatly deteriorating. All these things help to increase the cost of comb honey over extracted, making it a luxury.

Should the production of honey continue to increase as it has in the past, it must of necessity become a product of no mean proportions, and largely produced it must be largely marketed. I can well remember in the New West, and in war times, when almost any kind of sugars were a luxury, sorghum molasses was the staple sweet. Granulated sugar is now as common as was sorghum in those days, and so will most likely be the change in regard to the use of honey.

Comparing the cost of production of comb and extracted honey, much depends upon the location and environments of the producer. With the specialist the difference is not so very great, but with the man who has a few colonies (there are many such) in connection with other business, the choice between producing comb or extracted honey has to be made not so much on the ground of actual cost, but of ability to produce one or the other, and what can be gotten out of it. If I am so situated that I cannot give attention at proper times to get marketable comb honey, then my inability makes it expensive to *me*; but that matters not in the general production as a business. Honey-production as a *business* will not find the difference in cost so great as indicated by prevailing price.

To produce as a business, and to sell on the general markets, the choosing which we will produce is not a question of any great difference in the cost of producing, but of what it will bring after produced. I prefer to produce comb honey, it is much nicer and cleaner work; but laying aside my preferences, and looking at the matter in a business light, it depends upon circumstances, which I choose.

The first thing to do is to look the field over and see where and how the product is to be marketed, consider whether you can market by wagon or from the honey-house, or if freight must be paid and how much; whether your customers use honey as a luxury or as a common sweet, and never forget their ability to buy, whether luxuries or necessities only.

My home customers are not those who use many luxuries—they buy honey as a table sweet for general family use; do not want and will not buy much honey if it costs more than other good syrups. Comb honey sells in a limited way only, and at not to exceed 10 cents per section (pound) at retail. Were I producing *comb* honey for my local market, and to make a living out of it, it would be a slim living indeed that would come out of 10-cent honey. I can, however, make a living selling extracted at 6 to 7 cts.

I figure this way: If I produce for the home market it must be extracted, and that goes right along when the price is 6 cents for the bare honey (it is more this winter); thus the people can bring their own vessels and get it at about the same cost as sugar. If I sent the same honey to Chicago or Kansas City (my nearest general wholesale markets), the package, freights and drayage, etc., would cost me about 2 cents, and leave me about 4 cents for the honey—I would get *about* 6 cents there, usually.

If I am to ship out my honey instead of selling at home, I should produce comb. No. 1 comb would bring me somewhere about 10 cents in Chicago (remember I am talking about the general average one year with another, and *not* this year), the freight and package costing me about 3 cents. Thus, you see to ship my crop I would get something like 4 cents for extracted and 7 for comb, while to sell at home I would get about 6 for extracted, and sell enough to make a living out of it, whereas I would get about 10 cents for comb, and sell but little of it.

There are no doubt locations where one in well-to-do communities could sell quite a stock of comb honey; but there is this difficulty among the wealthy and such as buy luxuries, they buy a little nice comb, fruits and a great variety of things, so that because of the great variety the honey gets to be a trifling amount. If the customers are laborers or wage earners, and buy for every day use, one such customer is worth a dozen of the more wealthy who buy a *little* of everything.

We must, then, look at the matter squarely as a business proposition, not blindly but understandingly, then decide what we will produce. If your field is large, and the supply so limited that the demand will take all you can produce, go into comb honey. A wealthy community will take comb most likely rather than extracted, but you will need a greater number of families from which to get your customers. If the field is limited, and you must draw your trade from the middle and lower classes, then produce extracted, and make it supplant other sweets. Make customers out of your neighbors, supplying them a sweet as good and cheap as they have been buying elsewhere, then you have a trade that is worth much to any producer, a trade that is more to be depended upon than is the trade in luxuries.

Analyze intelligently the things to contend with, then go ahead, and once started on the right track keep right after it. The man who has been in a field for several years and carefully studied all the conditions, can discount some new competitor, in so far as knowledge goes. A competitor having a big advantage in the way of capital may discount one of limited means, but, other things being equal, the man who goes at a thing and stays right by it thru thick and thin, is the one who succeeds. Larimer Co., Colo.

The Home Market and Unfinisht Sections.

BY JESSE M. DONALDSON.

As I have received many valuable hints from articles written on this subject, I will give an experience that I had, from which I learned a lesson that may benefit others who, like myself, sell their honey around home.

My surplus is from white clover and raspberries. Buckwheat is not grown here, so my customers are not used to that kind of honey. Last year a man came thru this district selling buckwheat honey. It was a nice grade of comb honey, put up in cartons; he was selling it very cheap, and disposed of quite a large quantity. Some of my customers did not forget to call my attention to the difference in his price and mine. One of them told me he would ruin my trade.

I did not pay much attention to their remarks, as my crop was all sold, and I could not understand how he could hurt my trade, as he was selling buckwheat honey, and mine is from clover. But I soon learned my mistake, when I began selling my honey the past fall. One of the first houses I called at, I showed the lady a jar of extracted honey, telling her the price of the same. She said, "Our folks don't like strained honey. We always get ours in the comb."

Then I showed her a nice, well-filled section. After examining it, she said, "Well, that looks nice, and it is well filled, but we bought some last year that lookt nice, and we could not eat it."

I knew it would be useless for me to have her try the extracted honey, then explain to her that it was the same quality, so I past on to the next house. One of my regular customers lived there, so I made a sale.

But I had gone down the street only a short distance, when I received almost the same story as I did at the first house. This set me thinking. How could I overcome these arguments? I thought if I could let them sample the comb honey, the same as I do with extracted, all would be well.

I was only three blocks away from home, so I went back and got some of my unfinisht sections. I cut the honey out of one of them, placing it on a plate. I called at the same houses, and askt the ladies to sample my honey. The result was ready sales. I have used this plan since then, and I find it a great help, even when calling on my regular customers. When you give them a taste of honey (good honey) it seems to create a desire for more.

I suppose some will say that I could have used those sections for baits (just what I did do) to a much better advantage, so I will explain how I sort my comb honey.

I have my regular customers, and I believe in giving good measure, so I place in one pile all sections that are well filled and capt—they are for sale. Those that have nice, even combs, but are not well filled, I extract, and use for bait sections. Any section with uneven comb, or not built out full, I use on my own table. This is the kind I used to bait my prospective customers.

Speaking of bait sections, I see quite a number report trouble in getting them cleaned up. I had the same trouble until I hit on a plan that has always given me the desired results. Instead of leaving the sections in the super, I first uncap them, then I turn back one corner of the enamel cloth and place an empty hive-body on the hive. Then I fill the body with sections, placing them in any way so the bees can have access to all. It seems to me that the bees realize that sections placed on the hive this way are not accessible for winter stores. Worcester Co., Mass.

Migratory Bee-Keeping—Its Advantages and Disadvantages Pointed Out.

BY W. Z. HUTCHINSON.

My father lives in an adjoining county, where there is an abundance of boneset and goldenrod. One year a younger brother, who had not left home, came to my place early in August and carried home with him 20 colonies of bees. An upper story filled with empty combs was placed over each colony, and the top covered with wirecloth. A hay-rack was covered with hay to the depth of two feet, the hives set on the hay, and held together in a bunch by passing a rope around them. The journey of 25 miles was made without mishap. Those 20 colonies furnisht 400 pounds of surplus, and, besides, they needed no feeding for winter, while the bees kept at home stored no surplus, and each colony required feeding about 15 pounds on an average. I gave one-half the surplus to my brother as his share of the "spoils."

Had buckwheat yielded well, which, in this locality, happens once in about half a dozen years, nothing would have been gained by moving the bees. The inability to foretell the honey-flow in any given locality is the greatest obstacle in the way of successful migratory bee-keeping. In the Bee-Keepers' Review for August, 1889, Mr. R. L. Taylor said: "I might have made $1,000 by moving 100 colonies there [to a certain locality] last year; but I might expend $200 each year for the next five years in moving bees back and forth, and find at the end of that time that I could have obtained more honey if I had not moved them at all. This I admit is not likely, as the advantages of that locality for a full crop are so much greater than this, but it is *possible*."

Only 40 miles from here, on a direct line of railroad, is a locality where the main honey-flow comes in the fall; yet nothing is secured here at that time. All bee-keepers know that the distance of only a few miles often makes all the difference between no crop and a bountiful harvest, and the question is, Can't bee-keepers take advantage of this fact? If they can, why don't they do more than they do? Either the moving of bees to take advantage of transient, neighboring flows is unprofitable, on the whole, or else this part of bee-keeping has been neglected. Bee-yards, honey-houses, etc., are all gotten up with permanency of location in view. The bee-keeper gathers about him these conveniences and appliances, arranging his apiary, and if the honey comes to him, all right; if it doesn't, he does not think of *going to the honey*.

The expense of moving to and from a locality a few miles distant need not be so very great. From 30 to 40 colonies can be moved on a large hay-rack; or a special rack might be constructed, by means of which one team could haul 50 colonies. Small, light, readily-movable hives are a great advantage. One of the great advantages of fixt frames, about which there has been so much said of late, is that they need no fastening when an apiary is moved. An apiarist who is going to practice moving his bees to secure better pastures, must have hives, fixtures and other arrangements suitable for that purpose. It ought not to take more than two or three minutes to prepare a hive of bees for moving.

Some localities are blest with white clover, basswood and fall flowers—and, by the way, the man who is to make a specialty of bee-keeping ought to seek such a locality—but many who are already engaged in bee-keeping are permanently located, have friends and relatives living near, and prefer not to move away even if the profits would be increast thereby. Then, again, it is difficult to find a first-class locality of clover or basswood that is equally good for fall flowers. And the better the locality the greater the danger of its being overstockt by its very attractiveness, bringing together so many bee-keepers.

Years ago movable frames or combs were invented. In the last few years many of us have been learning to accomplish many things by handling hives instead of combs, and the expression, "readily-movable hive," has been coined. Now we are beginning to talk about readily-movable apiaries—those that, with a day's warning, can be pickt up and set down 20 miles away where a "honey-shower" is passing.

I scarcely feel like advising a bee-keeper to move his apiary to some other locality, with the hope of securing a greater yield than it is possible to secure at home, when the yield at home may be a fair one; but when a bee-keeper has only one—white clover or basswood, or fall flowers—from which to secure surplus, yet lives only a few miles from one or both of the other sources, it does seem to me as tho he ought to consider the advisability of moving his bees to these other fields when the harvest is ready for the laborers. To me this seems like a more promising field for experiment than that of planting for honey. Instead of spending time and money for seeds, land and cultivation, let us move our bees to where Nature has already scattered the flowers with a lavish hand.

There is another form of migratory bee-keeping that has long been the dream of apiarists—that of starting with an apiary in the South at the opening of the honey season, and moving northward with the season, keeping pace with the advancing bloom, thus keeping the bees "in clover" during the whole summer. The difficulties to overcome are those of transportation. There is no single line of railroad running north and south for a sufficiently long distance to enable an apiary to be moved north for a long enough distance to make a success of migratory bee-keeping. When shipping bees by freight on the migratory plan, the delays at junction points are sometimes not only vexatious, but disastrous. It is for this reason that longing eyes have been cast at the Mississippi River and her steamboats; and once C. O. Perrine tried moving several hundred colonies up the Mississippi on a barge towed by a tug.

The plan was to run up the river nights, and "tie up" during the day, to allow the bees to work. There were several reasons why the plan was a failure. The start was made too late in the season, and accidents to the machinery of the tugs caused delays. In order to overtake the bloom, it became necessary to confine the bees and run day and night. The confinement for so long was disastrous to the bees. Those who aided in the enterprise believe that, rightly managed, moving bees up the Mississippi, to keep pace with the bloom, might be made a success.

Mr. Byron Walker, who has had much experience in bringing bees from the South, greatly favors the Mississippi plan of practicing migratory bee-keeping. He would not put the bees on a barge and tow the barge with a tug, but would load the bees on a regular steamer running up the river, setting them off at some desirable point, and then shipping them by boat to another point farther up the river as the flow began to wane. In the fall he would take the bees back to the South for the winter.

Of course, bees moved in hot weather must have plenty of ventilation, but this alone will not save the brood. To save the brood, the bees must have plenty of water. As obstacle after obstacle has been removed in home bee-keeping, so the migratory plan may yet be robbed of its drawbacks.

Right here a hypothetical question comes to mind: Suposing that an apiary moving up the Mississippi secures six crops of honey—six times as much as a stationary apiary—would this be more profitable than six stationary apiaries? In other words, which is the more promising field for enterprise—following up the season or establishing out-apiaries? On this point there are many things to be considered, and varying circumstances would lead to different decisions. To establish six apiaries would require considerable capital, and the labor of caring for the honey crop would all come at one time, while there would be only a "chance" of securing a crop. With the migratory plan only one apiary would be needed, and the work of caring for the surplus would not all come at the same time. With the stationary apiaries, there would be no expense for transportation, which is a big thing.—Country Gentleman.

Genesee Co., Mich.

CONVENTION PROCEEDINGS

Report of the Michigan Bee-Keepers' Convention

BY WM. G. VOORHEIS.

[Continued from page 53.]

CLIPPING THE QUEEN'S WINGS.

Mr. Hilton—The trouble is where the queen's wings are clipt when the swarm comes out; if you are not on hand to catch her, you are liable to lose her.

Mr. Beecham—If you stay right at the hive and watch her it is all right. You must be there to see the queen drop, so as to catch her.

Mr. Bingham—I have tried clipping queens' wings a good deal. I do not do so now, as it is sometimes a great bother. The queen drops on the ground because she can not fly. The bees fly all over a 10-acre lot, trying to find her. Should other swarms come out, any one of them having a young queen, they will all cluster around the young queen. Then you will have a barrel of bees to separate. I have had as many as 7 or 8 swarms together.

Mr. Calvert—I think it is a good plan to clip the queen's wings where the swarm is liable to cluster on a high tree. Clipt queens are profitable in small apiaries where a farmer is out at work, and can not attend to them at the time. Where the apiary is large it is apt to mix up the bees all over the yard. It is more apt to make swarms go together.

DIVIDING FOR INCREASE.

Mr. Coveyon—It is not profitable to divide a colony in the spring, as you will not get much honey. Take two frames of brood and build up a colony from that.

Mr. Chapman—I make all my increase at the close of the season.

Mr. Kauffman—I divide by taking four frames of brood. I like natural swarming best.

Mr. Chapman—I use a queen-excluder to keep the queen in the lower story. Young queens will not swarm if you give them plenty of room. I use brood-chambers as I need them, and tier up as high as four stories.

FOUL BROOD.

Mr. Calvert—To stop the spread of foul brood shake the bees out of the old hive on a new hive with brood foundation, and burn the old combs. I have treated them in various ways, but like this way the best. The difficulty is that the bee-keepers do not know the disease when they see it. They should have a chance to examine bees affected with foul brood, so as to become familiar with it. The best illustration of it is in "A B C of Bee-Culture." The larvæ is tough, like India rubber; when you pull it out it springs back. It smells like old glue.

Mr. Rankin—Foul brood is one of the worst diseases. To get rid of it, shake the bees into a new hive on new foundation. Bees having foul brood seem very delicate, and should be taken out of the hive at the start. I can detect it as soon as I raise the cover.

Mr. Calvert—In Utah and Colorado they have an inspector in each county. The counties there are larger than in the East.

Mr. Rankin—One-half of the bees in the south and east part of the State are killed by foul brood.

Mr. Gifford—I move that the chairman appoint a committee to draft resolutions for the purpose of getting a State inspector appointed, and the foul brood law past at the next session of the legislature.

The chairman appointed Messrs. Rankin, Gifford, and Bingham.

Mr. Bingham—I think as the foul-brood combs are valuable, we can save them by using sulphur and washing-soda.

Mr. Hilton—I think they might be saved in the hands of an expert bee-keeper, but in the hands of a novice it would not succeed.

Mr. Rankin—I think that burning the combs is the best and only way. The danger of contamination is so great that it would not do to risk it. The starvation plan and putting the bees on new foundation are the only way.

Mr. Calvert—I do not think that Mr. Bingham's plan would work in out-apiaries.

Mr. Hilton—I would ask Mr. Rankin why the foul-brood law did not pass at the last session of the legislature?

Mr. Rankin—The reason is, the bee-keepers in this State did not stand by the Bill; they were so indifferent about advising their members of the legislature about it. It was pigeon-holed in the committee.

Mr. Hilton—If the bee-keepers of this State want the law past, they must write to their representative and State senator about it, then there will be something done. Write individual letters—that is what counts. One thing certain, unless it is done soon bee-keeping will soon be a thing of the past. The people of the State of New York are worse off, if anything, than we are. For my part, I would like to see the disease stampt out in this State. If the people in the State of New York continued as indifferent to the disease as they had been, we could soon sell honey to them.

Mr. Rankin—Vigorous measures must be adopted soon to quell this disease. The time has past for nipping the disease in the bud. It has spread over a greater extent in this State than people are aware of.

Mr. Bingham—I regard the honey-extractor a calamity. The trouble is where the foul brood exists in the apiary the use of the extractor will spread the disease all thru the apiary in a very short time. We must be very careful about using the extractor. Where one colony is affected with foul brood, we had better not use the extractor at all, as the germs left in the extractor will give it to the whole apiary.

OUT-APIARIES.

Do not put over 100 colonies in each out-apiary, as you are liable to overstock your locality.

Mr. Chapman—An out-apiary should be taken care of just the same as the home yard. The number of colonies would depend upon the locality.

Mr. Hilton—When I have an out-apiary I have a man to attend to it. I do not think it will pay in any other way. I would keep a man for six months of the year, and have from 100 to 150 colonies in each out-apiary. If you do not take good care of them, as you would any other farm stock, you will not succeed. Do not overstock your locality. The bee-keeper that follows the business must have out-apiaries.

Mr. Bingham—Bee-pasture can be overstockt. An out-apiary must be a large one or none at all. It is quite important to see one's bees every day. My bees gather as much honey from a poor pasture as some of my neighbors' bees gather from a good pasture.

CELLAR-WINTERING WHERE BEES ARE AFFECTED WITH FOUL BROOD.

Mr. Rankin—In cellar-wintering foul brood does contaminate the adjoining hives. We put a colony affected with foul brood into the cellar at the Experiment Station at Lansing, last winter. The hives were piled up alternately. Five colonies were affected from this one colony when we took them out in the spring.

PLACE OF NEXT MEETING—ELECTION OF OFFICERS.

A vote was taken for the next place of meeting, and Traverse City was selected.

The election of officers resulted as follows: President, George E. Hilton; Vice-President, H. K. Beecham; Secretary, Wm. G. Voorheis, of South Frankfort; and Treasurer, J. M. Rankin.

It was voted that the Executive Committee fix the dates for the next meeting.

PASTURAGE FOR BEES.

Mr. Hilton—Sweet clover on waste land is a great pasture for bees. It is a great honey-plant, and will grow on any soil from the poorest sand to the heaviest clay.

With several members this plant is a success.

Alfalfa was reported by several members to be a complete failure. One member sowed quite a large piece of ground, part of it grew and has done well, cutting hay from it three times last summer. He did not see the bees work on it.

Several members reported that catnip was a good honey-plant.

Crimson clover was reported to be a good honey-plant, but a dangerous feed for horses and cattle if allowed to get too ripe.

Alsike clover is a good honey-plant. It does best in moist or wet soil, and does not do well on dry, light soil.

Canada thistle and dandelion were named as good honey-plants.

GENERAL DISCUSSION.

As to the way to put foundation in sections, some kinds will be accepted no matter in which way put in. Other kinds must be put in so that the cells run diagonally from the top of the section.

Never use starters in brood-frames, as you will get too much drone-comb.

Mr. Gifford—I think plain sections are the best. I would use separators.

Mr. Hilton—I would not use light-weight sections. I prefer one-pound sections. I like tall sections best. At the same weight tall sections sell better than square ones.

Do bees always send out scouts before they swarm? From the discussion it seems at times that they would go direct from the hive to the tree in the woods. While bees usually cluster before they go off for good, they do not always do so.

Mr. Hilton—A neighbor of mine had a swarm come out; he hived it, but it would not stay. The swarm staid in the cluster all night, and in the morning I went over to help him hive it again. Just as I got there a number of bees flew into the cluster, seemingly from a distance. The swarm flew off as fast as they could go. We could not stop them. I think where the bees fly direct from the hive to the woods they must have come out the day before. I do not think that they send out scouts until after they cluster.

Mr. Calvert—I think that the plain section with the fence separator is the best, as there are less unfinisht sections. The tall section will hold a full pound in a good flow of honey; in a light yield of honey we will have light sections.

Mr. Hilton—I think we should have sections holding a full pound. Sections will hold more where separators are not used, but I would use separators so as to have the sections more uniform. Light sections will hurt the trade, and in the end hurt the bee-keeper.

Which is best, starters or full foundation?

Mr. Rankin—I think full foundation is the best with sections, and the double starter. For the latter I would use a starter ⅛ of an inch on the bottom of the section. Have the foundation from the top of the section come down to within ¼ of an inch of the bottom starter. It is important to leave this space of ¼ inch between the two starters to get the best results. I get better filled sections when I use this style of starter than in any other way. I use extra-thin foundation for sections. The new kind of foundation has the base of the foundation so very thin that when the bees draw it out they will not leave it so thick as to make fishbone.

Can we use thin foundation for brood-frames if we get out of brood foundation?

Mr. Hilton—No, it is not best to use thin foundation in brood-frames. When the bees commence to draw it out the weight of the bees and the warmth will get it out of place.

Mr. Calvert—The New York market wants a carton of pasteboard around each section. These cartons are becoming popular in other markets. They should have the name of the bee-keeper, but not his address; if the address is put on the merchant will erase it.

Is there any danger when the combs are infected with foul brood if afterwards it is made into foundation? No, the intense heat in melting the wax and making the foundation will destroy all spores of foul brood.

A vote was taken to see how many used 8 or 10 frame hives. From the result of this vote it was found that the 8-frame hive was used by a large majority, for both comb and extracted honey.

Mr. Woodman—The best way to render old comb is by the steam extractor. I also use a press with the same.

Mr. Calvert—For ordinary bee-keepers, or farmer bee-keepers, the solar wax-extractor will do just as well; but care should be taken to see that the glass on the extractor fits tight, so as to confine the heat.

Mr. Woodman—I use an uncapping-can with a screen in the middle to catch the bits of comb.

Mr. Beecham—I use an old extractor for an uncapping-can.

Mr. Hilton—I use a keg with a wire-cloth near the top.

The meeting then adjourned. WM. G. VOORHEIS.

THE AFTERTHOUGHT

The "Old Reliable" seen thru New and Unreliable Glasses.
By E. E. HASTY, Richards, Ohio.

BEGINNINGS OF FOUL BROOD.

Mr. Lovesy, on page 819 (1899), gives us what is possibly a very valuable observation about the first beginnings of foul brood in a hive. The nearly-grown larvæ are in distress and discomfort before any of them are enough affected to die. As one result of their writhings many young bees can be found with their heads toward the bottom of the cell—a position from which, of course, they can never get out. And this is the golden opportunity to go to work and cure the disease, before any filth has accumulated in the cells at all. I presume he would not claim that all attacks began thus gradually, or that all cases of reverst young bees indicate foul brood.

BEES AND POULTRY ON A CITY LOT.

To carry on both the bee-business and the poultry business on a city lot 50x90—well, it shows that a fellow has quite a bit of that turn that "laughs at impossibilities and says, It shall be done." It so happens that both Apis mellifera and Henibus eggifera have special talents in the line of getting the neighbors after them, with sharp sticks in their hands, and the spirit of Judge Lynch in their hearts. If Mr. Heim can keep bees, and hens, and the public peace, all three, he must be a pretty good, and wise, and amiable man. The picture he shows us, page 801 (1899), I judge to be spring and fall arrangement. Or is he smart enough to manipulate in a two-decker shed during the honey season?

OLD GRIMES AND HIVE-NAILING.

Alarum! Enter "Old Grimes." We musically and long ago thought he was dead—that good old man. If he isn't, of course we'll give him a reasonable chance to prove it up on us; but he mustn't expect this logical generation to believe it just by his saying so. I see he wants a nice-looking hive, and then to have it last a lifetime. And his method is the same as that whereby he preserved his old blue coat a lifetime; keep it every minute "all buttoned down before." His direction to "toe" the nails if they are required to hang on to wood lengthwise of the grain sounds decidedly like a live carpenter's dictum (just the thing bunglers like me would forget), and two nails close together, and toed in opposite directions, is our mechanical "prettyest" in the nailing line. Page 801.

EXPERIMENTS ON QUEEN-REARING.

How much better it is to have our settled views on important points founded on careful experiment than on mere impressions! And how absurd it is to try to force our impressional views on the bee-keeping public at large! Thus I meditated on Dr. Miller's experiment, page 803. But reading that one just makes me the more hungry for another of the same sort. Dr. Miller would be one of the first to admit that a different strain of bees, in a different locality, and under different honey conditions, not only *might* show points of divergence, but would be pretty sure to show some. While on this matter we are not to lose sight of the fact that it is not somebody's victory over somebody else that we care for, but the practical work-a-day question: Is it safe to let a queenless colony rear its own queen? My *impressions* agree with Dr. Miller's experiment, that it is. But the bees in the experiment took older larvæ than I should have expected in advance—that is my chief surprise—and my chief delight is to see them keep on starting more for six days. I confess to feeling annoyed by what Mr. Hutchinson said about that. 'Spects he not only followed his impressions that time, but impressions wholly formed from colonies that couldn't well start more, because they were hard up to supply royal jelly to what princesses they had already on their hands.

OTHERS' EXPERIENCE MAY BE VALUABLE.

"Nothing is done for the looks of it, or because others do it that way." W. L. Coggshall on page 804. That's a sentence that can't be let loose without having a great deal of effect. Perhaps it ought to have a good deal of effect. But lest our young men who are forming their life maxims should throw themselves too completely into the arms of it, I'll jostle against it a little. I once knew a young man, and a very brainy, inventive young man, too, who started out in farming on just about that principle. He's not a farmer now—was an unusually conspicuous failure at farming. So far as farming goes it's clear that the joint experience and judgment of thousands and thousands of ordinary farmers has simmered down to an unwritten volume of practical wisdom; and that no man, no matter how good a head he has on him, can afford to throw it *all* away at once. Can we be sure that the throwing-away course in apiculture would always turn out well, even if Mr. C. does make things hum? But the convention essay in which the sentence occurred is so good that I don't believe even the Progressive Bee-Keeper would bark at it.

SWEET CLOVER HONEY ATTACKT.

Mr. Selser is a brave man; about the first to make a public attack on sweet clover from the apicultural side. Plenty of outside attacks and charges of being a general nuisance. We're up against the question now whether sweet clover honey is really fit to eat or not. Several facts will have to enter into the final decision. For one, most honeys are unfit to eat in the unripe state. Don't blame the 'tater for not being good, till it's done. For another fact, it is quite common for sweet clover to keep multitudes of bees busy for weeks when not a pound of surplus comes in. Likewise it is fearfully common for the bee-man not to know whence a small run of surplus does come—often credits it wrongly, oftener doesn't try to credit it at all. Now about how often do these unrecognized runs come in *at the same time*, when half the bees are playing around the sweet clover like moths around a candle? In other words, are not most alleged samples of sweet clover honey very largely mixt with something else? On the main question let us hear from Utah, which is supposed to harvest more sweet clover than any other region. Convention debate, page 805.

HOW MANY HOURS A DAY DO BEES WORK?

I wonder if Prof. Hodge realizes how big a job he is at

—to make the public and us believe that the busy bee is not a busy bee. I should presume the observations he mentions were taken *when there was no honey-flow*, and when (very naturally) the field-bees were merely prospecting a little once in awhile, and waiting for a change the rest of the time. A normal hive in the busy season has no such numbers of unoccupied cells as would be required to let each field-bee spend three-quarters of the time snoozing in one. Page 808.

POWER TO RESIST STINGS.

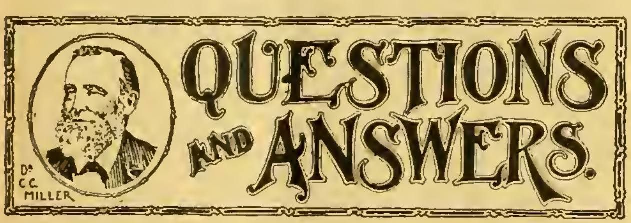
The power of the toad, and of some species of birds, to resist stings with little discomfort and no danger is simply one of the remarkable facts of Nature; but beyond the fact that it is a fact I fear we shall not be able to travel a great ways. Page 821.

PICTURE OF THE PHILADELPHIA CONVENTION—AND A BABY.

That's a nice picture of the bee-folks in front of the Franklin Institute, page 817. May I tell you that I enjoy looking at the human nature of such pictures about as much as I enjoy looking for my friends? For instance, that lady in the back row, the effort she is making that the baby may have a fair show—didn't mind so much that she herself is short and nearly hidden. Alas, the wicked camera! Did somewhere near justice by nearly every one else, and reported the baby's face as a simple white spot.

LOCALITY AND THE DURABILITY OF HIVES.

We had resigned ourselves to the freaks of "locality" in almost everything else, but to be told by Mr. Davenport, page 821, that one mile difference of locality may make a great difference in the durability of hives, that kind o' "strikes us sudden like"—comes like a new wave of la grippe when we thought the worst was over. And the worst of it is he seems to be correct. Our hives stand mostly within a few inches of the ground, and when one thinks of it we couldn't expect them to last as well in a damp hollow as on a dry, breezy knoll. The drifting dust of a road close by is an element few of us would have thought of; yet quite possibly that counts a little.



CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Supers on in Winter—Feeding, Etc.

1. I have 65 colonies on the summer stands. I put the supers on last fall, then covered them with quilts, then with store-boxes turned down over them; then I packt around them with forest leaves. The hive-entrances are to the south, and boarded up on the north. I wintered them that way last winter, without the loss of a colony. Is it a good idea to put the supers on in the fall?

2. What do you consider the best honey-plant?

3. Is there a feeder manufactured for feeding bees on the summer stands?

4. What do you think about feeding bees in the spring?

5. Is there a difference in variety of buckwheat in producing white or dark honey? INDIANA.

ANSWERS.—1. I think a super on the hive with absorbent packing is a good thing; but it's worth twice as much to you to know what the bees think as to know what I think; and when a certain mode of wintering was entirely successful in so severe a winter as last, you may do well to tie to it.

2. There is no best honey-plant. What is best in one place is not best in another. For this locality, white clover is worth all the others put together; yet in some places alfalfa is worth a great deal more than white clover, while alfalfa seems to be worthless here. It is quite likely that in your part of Indiana white clover is the best honey-plant, altho it may happen that linden may be worth more. Possibly some other plant.

3. Yes, a number of them; among them are the Miller feeder for feeding on top, and the Boardman feeder for feeding at the entrance.

4. Scarcely anything can be more important than to feed in spring if the bees are short of stores. Not only that, it is well to feed till they have enough to last for a considerable time, say a little more than enough to last till they can gather from outside sources. By some means, the bees seem to calculate ahead, and if they have only a very little honey they will not breed as freely as if abundance is in sight. If there is plenty of honey in the hive, there is still such a thing as stimulative feeding, but that sort of feeding is a two-edged sword, and those with little experience will do well to let it alone.

5. I think you may find a difference in the shade of different samples of buckwheat honey, but probably no difference made by the variety. The season and the soil have more to do with it.

Stores Bees Consume in Winter.

Here in southern Oregon the winter has been very mild, and no snow yet. My bees have a flight every few days, and sometimes every day for a week. Do they eat more honey when they can fly out than when it is so cold they can't fly? OREGON.

ANSWER.—Yes, the consumption is considerably more when bees fly daily than when it is just cold enough to keep them in the hives. When the cold becomes very severe, then the bees must stir and consume more to keep up the heat, but the days of frequent flights are harder on the stores than the severe cold. But some of those in severe climates would be glad to swap places with you, even if it does cost more stores.

Banking Earth Around Hives.

My 84 colonies have just had their first flight in a month; loss of bees small, but dysentery commenced, which will no doubt disappear, as we have had a few fine days for bees to fly. Hives are badly spotted, and one hive-entrance is a perfect sight of the effects of dysentery. I have a neighbor one mile away who banks ground about the back end and sides of the hives; he has wintered very successfully for several seasons, and reports his bees as at present entirely free from any dysentery. Do you suppose this banking of dirt about hives has rendered his colonies free from it? It is the only reason I can assign for it. The temperature has been zero but a few mornings, and ranging most of the time of mornings from 15 to 25 degrees. My bees are in single-walled hives. OHIO.

ANSWER.—Cold is one of the important factors in producing diarrhea, so banking up to make the bees warmer might make no small difference in the matter.

Candied Honey—"Hot" Honey—Extracting.

1. I wish to enquire about candied honey. I have been in the business four seasons—the first two seasons I didn't see a pound of candied honey. Altho some of the old honey was kept over till new honey began to come, it was clear and bright, but the third crop candied some the next winter and spring, and the early honey of the present season commenced candying in the fall. A gentleman living four or five miles away said he didn't know why his honey should candy and mine not.

Why was it? Was it because at the first my extracting-combs were all fresh and new—just produced from the comb foundation?

2. Will a dipper that has candied honey on it, if put into clear honey, cause the clear honey to candy?

3. What is honey produced from, that is sometimes so "hot," or causes such a smarting sensation in the throat, that it can hardly be eaten? It may otherwise be of excellent quality. What is a remedy for it?

4. I have noticed that my early honey was not of as good flavor as that produced in the latter part of the season; some of it had the flavor of syrup made from light brown sugar. A little was so objectionable that it was hardly marketable. In addition it gave considerable of the

smarting sensation that I spoke of. Would it do any good to leave it on the hive until fall?

5. By the way, that suggests another question: What is the best way to extract honey? To extract as fast as we can find combs pretty well filled and about half sealed, taking a few, perhaps two or three out at a time, or have plenty of super room, and when one is nearly filled put another filled with comb or comb foundation under it, and not extract but once, and that when the honey season is over?

6. Will it make any difference with the flavor of the honey, or with the working of the bees? I thought last summer that it seemed to discourage some of the swarms to take some of the frames away and supply their places with empty comb. When I have extracted, the weather has usually been dry and hot, and I have never had any trouble with unripe honey.

KANSAS.

ANSWERS.—1. It may be impossible to tell for certain which one of several causes may have made the difference between your neighbor's honey and yours, if indeed it were possible to name all the causes that might operate. His bees may not have workt on the same flowers as yours, and there is a decided difference as to the granulating of different honey. The way in which honey is kept makes a difference in granulation, and his honey may not have been kept in the same way as yours. His new comb may have kept the honey longer from candying than your old comb in which some candied honey may have been present when the bees began to store in it.

2. It will have an effect in that direction.

3. I don't know. I never tasted any such honey but once, and I never care to taste it again. It think it was a sample that some one had at the convention at the World's Fair at Chicago. The effect was about the same as that of eating Indian turnips. At first you scarcely tasted anything wrong with the honey; but after you had tasted it, the biting, burning sensation kept increasing till it was quite painful. I supposed the honey was gathered from some special flower, and I know of no way of avoiding such honey unless it would be to destroy the objectionable plants. It is just possible that long keeping might modify its viciousness, for it is said that rank onion honey becomes quite good with age, but I should hardly expect this pungent article to give up its character. Can any one tell us from what plant it is gathered, and whether it improves with age?

4. Possibly it might not be so bad in the fall; but it would probably still be bad.

5. Some of our best bee-keepers practice the last plan mentioned, doing no extracting till the close of the season, and the tendency seems to be getting more and more away from the plan at first practiced by many, of extracting before the honey was sealed.

6. As a rule, the honey that is left long in the hive will be of better body and flavor. If taken too soon after being gathered, it is considered unfit to put on the market. So far as the bees are concerned, they are stimulated rather than discouraged by having an empty comb or combs given them.

Getting Bees Out from Under a House-Siding.

I enclose a drawing of a house in which is located a colony of bees between two studding and under the siding. They are, as you will see, about 16 feet above the ground, a little to the left and below a window in the second story. They have the space between the two studding, and about 8 feet in length, filled with honey, going in near the lower part thru a knot-hole. I would like to get the bees and honey out as early as possible in the spring and save the bees. Kindly tell me how you would do it.

ILLINOIS.

ANSWER.—If you are a novice in handling bees, it might be well for you to get the help of some one familiar with such things, and if at the same time he is a carpenter, so much the better. Erect a scaffold sufficiently high, and commence removing the siding above the bees. Apply smoke before and during the operation with sufficient frequency to keep the bees from being too intimate. As you get down to where the combs begin, thrust a knife down to sever the attachments of the comb to the siding before removing each piece of siding. When the combs are laid bare, cut them away carefully, still using smoke as much as necessary, and transfer the brood into the frames of a hive as directed in your text-book for transferring. By the time you are thru with that part of the job, very likely a large part of the bees will be clustered on the place from which the combs were taken. Build some kind of a platform on your scaffold on which you can place your hive so that the entrance of the hive will be thrust into the bees. If they do not start to go in the hive of their own accord, brush a few into the entrance to give them a hint. If this is not a success, owing to the stubbornness of the bees or some other cause, hold a frame of the brood in the cluster till it is well covered with bees, then put it in the hive and use another frame, till the bees are all in the hive. Or, you may take something like a dipper and dip the bees up, and then gently pour them on the brood-frames. Persevere in one way or another till you get all the bees, for the queen might be in a small cluster remaining. If you happen to see the queen, you needn't be so particular about getting the last of the bees; but smoke heavily those left till they prefer some other quarter. Then set your hive where you want it to stay.

Moving Bees in March.

How should I pack my bees for a long-distance shipment? They are now packt in a box which is six inches larger each way than the hive. I filled in straw between. I am going to move to Minnesota in March. I got some nice honey last year, tho it was a poor one, about 45 pounds to the colony. The sweet clover was the main honey-plant.

ILLINOIS.

ANSWER.—The main thing is to see that they have sufficient ventilation, and, if they have a long enough confinement, that they do not suffer for water. If you do not have fixt-distance frames, the frames must be secured against moving, and this may be done by driving a nail down thru each end of each top-bar, not driving the nail clear in, but leaving the head projecting enough so that you can easily draw it out with the claw of a hammer when the bees are again on the stands. Just what is the best way to give ventilation depends on the build of the hive. In March there is less air needed than when the weather is hot. If the entrance amounts to 12 square inches or more, all that is necessary is to cover the entrance with wire-cloth in any way that is convenient and secure. If the entrance is not large enough, you can make a rim the size of the hive and an inch or two deep, covered with wire-cloth, and let this take the place of the cover. Before fastening up the hive, there should be given a sponge filled with water, or a roll of wet cloth, which could be wet afresh on the journey if necessary, but perhaps it would not be necessary in March.

York's Honey Calendar for 1900 is a 16-page pamphlet especially gotten up to create a demand for honey among should-be consumers. The forepart was written by Dr. C. C. Miller, and is devoted to general information concerning honey. The latter part consists of recipes for use in cooking and as a medicine. It will be found to be a very effective helper in working up a home market for honey. We furnish them, postpaid, at these prices: A sample free; 25 copies for 30 cents; 50 for 50 cents; 100 for 90 cents; 250 for $2.00; 500 for $3.50. For 25 cents extra we will print your name and address on the front page, when ordering 100 or more copies at these prices.

"The Hum of the Bees in the Apple-Tree Bloom" is the name of the new bee-keeper's song—words by Hon. Eugene Secor and music by Dr. C. C. Miller. This is thought by some to be the best bee-song yet written by Mr. Secor and Dr. Miller. It is, indeed, a "hummer." We can furnish a single copy of it postpaid, for 10 cents, or 3 copies for 25 cents. Or, we will mail a half-dozen copies of it for sending us *one new* yearly subscription to the American Bee Journal at $1.00.

Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Upon receipt of $1.00 for your Bee Journal subscription a full year in advance, we will mail you a Wood Binder free—if you will mention it.

AMERICAN BEE JOURNAL.
ESTABLISHT IN 1861 OLDEST BEE-PAPER IN AMERICA
DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS.

PUBLISHT WEEKLY BY
GEORGE W. YORK & COMPANY,
118 Michigan Street, Chicago, Ill.

[Entered at the Post-Office at Chicago as Second-Class Mail-Matter.]

EDITOR:
GEORGE W. YORK.

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IMPORTANT NOTICES:

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VOL. 40. FEBRUARY 1, 1900. NO. 5.

EDITORIAL COMMENTS

NOTE—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

The Colorado Convention Report is now in our hands, and its publication in these columns will be commenced next week. A good report is always assured from the Colorado Association, as they invariably have profitable annual meetings.

The Wisconsin Convention will be held at Madison, in the State Capitol, Wednesday and Thursday, Feb. 7 and 8—next week. The editor of the American Bee Journal expects to be present, and hopes to have the pleasure of meeting as many as possible of his good bee-keeping friends in that part of the country. Judging from the program, which was publisht in these columns recently, a good meeting is assured.

The Chicago Convention of the National Bee-Keepers' Association will be held next Aug. 28, 29 and 30—beginning Tuesday evening at 7:30 o'clock. The exact place in this city for holding the meeting is not yet definitely known. There are one or two places in view. The executive committee of the Chicago Bee-Keepers' Association having in charge the selection of a hall, think it would be well to hold their next local meeting in a certain place as a trial, then if all is satisfactory have the National convention meet in the same place. The next meeting of the Chicago Association will be held Thursday, April 5—about five months before the National—so there will be ample time after that to announce the exact place of meeting in August.

In Gleanings in Bee-Culture for Jan. 15, Pres. E. R. Root has this to say in reference to the great annual bee-keepers' convention:

> "The place of meeting is Chicago during the time of the Grand Army encampment, when low railroad rates will be in force all over the country. A program has been in process of preparation for some time back, and among some of the special features will be one, and possibly two, stereopticon lectures on two separate evenings. The question-box for the latter half of the day sessions will be another feature. The questions will be of a character to interest advanced bee-keepers as well as beginners. Every effort is being put forth to make this one of the best in point of discussion and attendance that has ever been held. Chicago is a central point, easily accessible from every direction, and there is no reason why there should not be a large meeting. Local associations, State and county, should see to it that delegates are appointed to attend this meeting."

The Ontario Convention for 1899 was held in Toronto, Dec. 5, 6 and 7. It reported a membership of 92, with a balance in the treasury of nearly $117. Messrs. Wm. McEvoy and F. A. Gemmill were re-elected as inspector and assistant inspector, respectively. The next place of meeting will be Niagara Falls. A recommendation was approved which decided that the Association do not assume the publication of the Canadian Bee Journal. The new president, C. W. Post, was recommended as inspector of honey intended for the Paris Exposition.

The Article on Migratory Bee-Keeping, on another page, shows familiarity on the part of the writer with the subject. The question why more do not practice migrating is partly answered by Mr. Hutchinson when he says: "An apiarist who is going to practice moving his bees to secure better pastures, must have hives, fixtures and other arrangements suitable for that purpose." Every bee-keeper does not have these, especially the proper arrangement for hauling; and he does not know very well what he should have. Then he has a fear that bees may get out and make trouble *en route*—a fear not without foundation, for those who have had experience in hauling bees have generally had a pretty tough breaking-in, some of their experiences having been of a decidedly serious character. For some it would be a hard thing to find a spot to locate bees, even after having found the right pasturage; for there seems a general prejudice against having bees on the place, among those who have no bees of their own.

Altogether, there is no little to make a bee-keeper hesitate about making his first attempt at migratory bee-keeping.

California as a Honey-State.—That racy writer, Rambler, has been for a long time writing Rambles for Gleanings in Bee-Culture, in which, perhaps, too often there has been so little bee-talk that the busy bee-keeper hardly felt he could spare the time to read them; and yet did not dare to skip them for fear there might be a hidden nugget that he could not afford to lose. Latterly there has been an improvement in this respect, and his last Ramble, No. 181, is a perfect gem of its kind, and the kind is a good kind.

Rambler discusses California as a honey-producing State, and makes a masterly job of it. No attempt at quotation or condensation would do the article justice, and it is not worth while to attempt it. A little later on we expect to copy it. A remarkable accompaniment to the article, however, may be mentioned, in the shape of two maps. One is a map of California, showing the State divided into three portions, viz.: Northern California, largely undevelopt; central, with its alfalfa regions; and southern, undevelopt at the north and south ends, between which are its orange belt and its sage regions.

The other map is a counterpart as to size and shape, the whole State apparently being turned into a sea of water in which are seen floating like great blocks of ice the States of Delaware, New York, New Jersey, Massachusetts, Vermont, Maine, New Hampshire, Connecticut, and Ohio. Contemplating this latter map, one is led to exclaim, "I certainly never realized before what a big State California is."

Mexican Extracted Honey.—About two weeks ago we received a sample of extracted honey produced in Mexico, from Mr. G. L. Kilmer, of the State of Jalisco. It is a thick amber honey, worth perhaps less in this market than ordinary buckwheat extracted honey, tho Mr. K. said he would ship us a carload of 30,000 pounds of it, in 60-pound tin cans, at 12 cents a pound delivered in Chicago. Here is what Mr. Kilmer said further in regard to the honey:

> This honey is gathered by the natives working for the large ranchers here. The bees are driven out, the comb collected and put into boxes having wire sieves below; the box is then covered with thin boards, and placed in the sun, the heat forcing the honey to run out thru the sieve. They have been getting out their honey this way since Cortez conquered Mexico.
>
> Rice, corn, sugar-cane, wheat, oranges and lemons are the principal products of these parts. G. L. Kilmer.

We see from the above that the Mexicans used a sun or solar extractor long before Mr. Doolittle and some others were born. Verily, there is nothing new under the sun.

But just to think of Mexican extracted honey at 12 cents a pound! And honey that is only fit for manufacturing purposes, at that. At that rate, we are not fearing its competition.

Alkali-Weed as a Honey-Plant receives high commendation from W. A. H. Gilstrap, of California, in Gleanings in Bee-Culture. Notwithstanding the great value of alfalfa, it is more or less a failure when it has too much or too little moisture, and sometimes it fails when there is no apparent reason for the failure. In many places alkali-weed comes in nicely. It is sometimes called "sticker-weed," on account of the small prickles with which it is covered. Here is what Mr. Gilstrap says concerning it:

> "These weeds frequently grow as high as wheat before the latter is cut, and sometimes prevent its being harvested, as the weeds would decay in the stack. You need not expect much bloom before July or the first of August, except on strong alkali land where the weeds are stunted. Then the golden honey is produced until frost or early rain kills the plant. This year was an exception, as the honey failed about Sept. 23, and our first rain fell Oct. 10. Hardly enough frost yet for you to see. In seven years I have known two failures of this source, caused by drouth. The flavor of this honey is pleasant, not so sweet as alfalfa, clast as amber or light amber by different dealers. It is too yellow to excel as comb honey, and also granulates quicker than some other honey. These are reasons why it is no more sought after by apiarists."

The First Honey-Extractor put on the United States market was the Peabody. It was invented and manufactured by J. L. Peabody, and in beauty of finish has never been excelled by any of its successors. In effectiveness it is now out of the race, as the entire can revolved with the combs. Fresh interest in the matter has been awakened by the editor of Gleanings in Bee-Culture, who met Mr. Peabody at the late Colorado convention. He is brother to H. O. Peabody, the inventor of the Peabody rifle, to whom J. L. modestly gives all the credit for the neatness and mechanical excellence of his extractor, as H. O. was the mechanic who designed and built it. The machine did good work in its time. It was patented in 1869.

The Weekly Budget

Mr. W. L. Coggshall, of Tompkins Co., N. Y., returned about a week ago from a trip to Cuba. He reports not much honey in the locality he visited, and whole apiaries destroyed by foul brood.

* * * * *

The G. B. Lewis Co., of Watertown, Wis., were the first bee-supply dealers to send us their catalog for 1900. Their advertisement is always found in the American Bee Journal—and their excellent goods everywhere.

* * * * *

Mr. O. L. Hershiser, of Erie Co., N. Y., we learned from announcement received at this office, Jan. 24, was married to Margaret J. McIntosh, at Toronto, Ont., Dec. 6, 1899. Even if a little late, our hearty congratulations are hereby extended to Mr. and Mrs. Hershiser.

* * * * *

Dr. A. B. Mason, of Lucas Co., Ohio, writing us Jan. 20, said:

"Our bees in the cellar were never in better shape at this time of the year. It's a treat to have an occasional peep at the clusters hanging from the bottom of the frames, or rather, lying between the bottom of the frames and the quilt on the hive below."

* * * * *

Dr. D. E. Stratton, of Tuolumne Co., Calif., reports in Gleanings in Bee-Culture, that 1892 was his best year with bees. He says:

"From 54 colonies, spring count, I extracted 22,397 pounds, and increast to 72 colonies. Clear profit, besides the increase, $786. My disastrous year was when I extracted 840 pounds, and had my apiary decrease from 145 good colonies to 54 poor ones."

* * * * *

The Horse "Coggshall."—Harry Howe tells in Gleanings in Bee-Culture of a visit he made to an apiary about 18 miles from Havana, Cuba, belonging to Senor Aguilera. Its 250 colonies all in new 10-frame dovetailed hives in all the colors of the rainbow, made a beautiful sight in their setting of banana trees, flowers and ornamental plants. "On the way back," says Mr. Howe, "I noticed that the horse seemed to have a rather queer name; and after I began to notice it, it seemed some way familiar, so I askt Senor A. about it. It turned out to be 'Coggshall,' with a Spanish pronunciation. It surprised me very much to find a horse with such a name, until Senor A. explained that the horse had grown into the habit of kicking the cover off from things, then all was clear."

* * * * *

Prof. E. N. Eaton, who was recommended by the Chicago Bee-Keepers' Association as a suitable person to be assistant Pure-Food Commissioner and State analyst, received the appointment from Commissioner Jones, we are glad to say. Mr. Eaton, we believe, is thoroly qualified for the position, and will make an excellent assistant to Mr. Jones.

Here is what Editor Abbott has to say about Prof. Eaton, in the Modern Farmer:

"The bee-keepers of the country, and especially of Illinois, have cause to congratulate themselves on the appointment of Prof. Eaton. He is not only a fine chemist, and thoroly equipt for his position, but is a friend of the honey-producer. He has had a good deal to do with honey analysis, and will no doubt furnish valuable aid to the United States Bee-Keepers' Association in their attempt to drive the honey adulterators from their stronghold in Chicago. We congratulate the Commissioner on the appointment, and take this opportunity to assure him that he will have the hearty support of all honey-producers in his attempt to compel people to sell goods for what they are."

The Premiums offered on page 79 are well worth working for. Look at them.

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BEEDOM BOILED DOWN

Breeding for Tongues is thus mentioned in Gleanings in Bee-Culture:

"At the Michigan State Bee-Keepers' Convention, held in Thompsonville, Jan. 1 and 2, Mr. J. M. Rankin, who has charge of the apiarian department of the Michigan Experiment Station, reported some interesting experiments in the line of developing bees with long tongues. He found that the average length of the tongue of black bees is 4.5 millimeters; Italians, 5.1, while he had several colonies of a strain of bees at the Experiment Station apiary whose tongues measured 6.2 millimeters. He believed that, by a process of selection, and breeding with this trait in view, a race of bees might be developt which will secure more of the honey from clover-blossoms."

Foul Air and Cold in Cellars.—A Stray Straw in Gleanings in Bee-Culture says:

"Mr. Editor, you say that when bees quiet down in the cellar after a fire has been started, no one can state definitely how much of the trouble was due to cold and how much to foul air. Quite right. But I'll tell you one case in which you can tell definitely. Temperature in the cellar, 50°; same outdoors. Bees noisy. Fire started toward evening, running temperature to 60°. Next morning bees still, with thermometer 50° inside and out. Foul air had all to do with it in that case."

Editor Root follows with this footnote: "That is a clear case; and the fact being establisht in *this* case, it will be reasonable to assume that in the other cases foul air is equally the disturbing cause."

Making Honey-Vinegar Rapidly.—In the American Bee-Keeper, M. F. Reeve tells about a rapid plan used to make vinegar out of soured mead, of which several hundred gallons would have been otherwise wasted. The mead was made of Cuban honey and Demarara sugar spiced, but any solution of honey might be used. A whisky barrel set on end was the generator. Further details are as follows:

"It was bored full of half-inch auger-holes, sloping downwards, and was then filled with beech-shavings procured from a shoe factory. A false bottom was put in, on which the shavings rested, and a loose head was dropt on top. A spigot was inserted in the barrel, and the generator was ready for business. The already sour mead was poured into gallon stoneware jugs and heated over night on a shelf above the kitchen range; in the morning it was poured in at the top of the generator and allowed to percolate thru the shavings. The air admitted thru the sloping holes in the sides of the barrel did the business of supplying the required oxygen, and a few runnings thru the barrel, was all that was necessary to convert the fluid into the sharpest, clearest vinegar anybody ever tasted. There must be a generous body, say a pound of honey or sugar, or molasses, to the gallon; otherwise the maker will have a thin vinegar which will lack the prime requisite—acidity."

Wintering Bees in a House above ground has been pretty generally voted not an entire success, the bees being too often subjected for a long time to a very low temperature, without the advantage of a prompt flight on the occurrence of a warm day. F. L. Thompson reports 3 Utah bee-keepers who make an entire success of such wintering, the secret of the success appearing to lie in the fact that a sufficient number of bees are piled together to keep up the temperature. Practically, that makes it the same thing as cellar-win-

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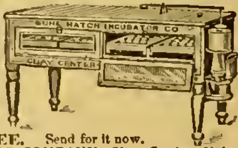

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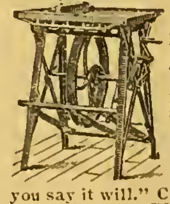

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Root's Column

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"It was first written by A. I. Root something more than 20 years ago, but bee-culture is not a science that is at a stand-still, so during all these years the book is kept standing in type, and with every advance in bee-culture there has been a change in type, so that the book, now double its original size, is just a little in the condition of a boy's jack-knife; he lost a blade and had a new blade put in, then the handle was broken and he got a new handle; but still it was 'the same old knife.' The work has been ably revised lately by E. R. Root, son of A. I. Root. also a skillful and experienced bee-keeper, and the whole is entirely **up-to-date** and practical. For one who has a single colony of bees, and who desires a work to which he can confidently turn for an answer to the thousand and one questions constantly coming up in practical bee-work, it would be hard to invest $1.20 more profitably than to send for Root's A B C of Bee-Culture."

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tering, and the plan might well be considered by those who have a sufficient number of colonies in a region where ordinary outdoor wintering may not be advisable—where the winters are not *too* cold for the number of colonies kept. Of J. Bouck, Mr. Thompson says:

"Mr. Bouck, during the 7 or 8 years he has put his bees in the house, has not lost a single colony in the winter of those indoors. They are put in with settled cold weather, and taken out about the middle of March, being kept in darkness and not allowed to fly. The house is a mere lean-to against the east side of a granary, composed of inch boards, not battened, but the chinks are stopt in winter for the purpose of excluding the light. There is no floor. A cat-hole from under the granary lets the cats in to keep down the mice, and affords ventilation. The room is about 11x14, and the hives are piled all around the walls up to the roof, facing in, with a row thru the center. A tier is put in all about, then each cover raised at one end by putting a half-inch stick under, then another row set on, and the covers raised, and so on till completed. The heat from the 80 to 100 colonies keeps the apartment so warm that a bucket of water set in never freezes in the severest weather, and the hired man gets in the habit of dodging in there to get warm."

A Mass of Bees Warms the Cellar.—Says Dr. Miller in Gleanings in Bee-Culture:

"Formerly I kept my bees in two cellars, with the belief that the fewer bees the purer the air. I've changed my practice for the past few winters, and am shaky as to my former belief. I now cram all the bees into one room of my house-cellar—less trouble to watch, and so many bees keep it warm enough so fire is not often needed. The warmer cellar makes better ventilation.

Editor Root then adds this comment: "In a cold locality like that of Marengo, I am rather of the opinion that a large number of colonies in the cellar is more conducive to good results than a small number; but in the vicinity of Medina, where we have so much open winter (like spring to-day, Jan. 6), and the weather outside is even warmer than the atmosphere of the cellar, then a small number of colonies will give a better result."

Does the Queen Meet the Drone a Second Time?—The editor of Gleanings in Bee-Culture is askt his opinion as to the statement of Prof. C. F. Hodge in relation to the nuptial flight of a queen, "that within 15 minutes after the bees had removed the organs of the drone she flew again, and in 5 minutes returned with a second trophy of success."

To this Editor Root replies: "The language is susceptible of two or three interpretations. One is, that Prof. Hodge believes that queens may meet the drone more than once—before and *after* egg-laying; second, that they may be fertilized two or more times *before* actual egg-laying begins, but not after; or third, what is more probably true, the bees, on the return of the young queen, in their efforts to remove the *outside* appendages, took out all the organs of the drone, thus making the first flight of the queen fruitless, rendering a second one necessary......A strong fact against the theory that the queen meets the drone a second time is that there has been no absolute proof to the effect that the progeny of any one queen changes from black to Italian or *vice versa*. The first bees hatcht by the queen will be like all the rest reared from that mother, no matter whether she lives to be three months old or three years. It is true, there have been reports that the progeny of one queen changed all their markings, but so far as I can remember there have been too many chances for error on the part of the observer."

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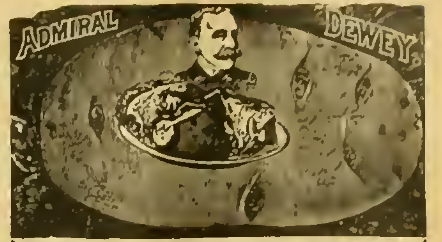

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is the title of a new illustrated pamphlet just issued by the Chicago, Milwaukee & St. Paul Railway, relating more especially to the land along the new line it is now building thru Bon Homme and Charles Mix counties in South Dakota. It will be found very interesting reading. A copy will be mailed free on receipt of 2-cent stamp for postage. Address Geo. H. Heafford, General Passenger Agent, Chicago, Ill.

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192 pages. 8x11 inches. Articles written expressly for it by leading poultry authorities of the world. Handsomely illustrated. Justifies its title ***"How to Make Money with Poultry and Incubators."*** Tells about the

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IT HOLDS UP YOUR HAT

Don't you remember how your father used to test his grass and grain in this way? When it held up the hat it was always regarded as being a satisfactory and profitable "stand."

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BROME GRASS

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GENERAL ITEMS

Warm January—Shipping-Cases.

The past season was a poor one for honey with me—not more than half an average crop. I think there are too many bees for the pasturage in this vicinity. I am somewhat fearful that this winter will be a hard one on my bees, on their summer stands, tho in chaff hives. They came thru the severe cold of a year ago finely; indeed, I have not in six successive winters lost a single colony by winter-killing. But I fear the effect of this warm and sloppy January. However, I must wait and hope for the best.

I notice that some one recommends nailing in the cross slats in no-drip honey-cases. I prefer to fasten them with bits of wax under them, well prest down; thus stayed, they will not slip. ALBERT BAXTER.
Muskegon Co., Mich., Jan. 19.

Wintering Bees in a Close Room.

It will be interesting, after so many years of pro and con ventilation, to know that in an atmosphere of 50° so charged with gas and so destitute of oxygen that a lamp would go out in a second, bees live for weeks, quiet and contented, with no greater death-rate than in an atmosphere in no respect differing from the one we breathe for the same length of time. T. F. BINGHAM.
Clare Co., Mich.

Fixing for a Big Crop.

Kansas is fixing for a big crop of honey this year. There is an abundance of moisture and but little cold. Bees have an outing every week or so. A number of people are buying bees and sowing alfalfa. I increast from 12 to 32 colonies in 1899, and secured 500 pounds of comb honey.

Mr. Doolittle's plan of superseding a black queen with a queen-cell above an excluder, as per his book, failed for me; but I think it was my fault.

Success to the Bee Journal.

SILAS HARTER.
McPherson Co., Kan., Jan. 17.

Two Dry Years in California.

It is raining to-day, and I feel good in anticipation of the future sweets, if this rain continues long enough (and the prospect is favorable), and if others follow. Of course, those who have kept informed are fully aware that Southern California has suffered two dry seasons in succession, and as a result an almost total failure of the honey crop. The loss of bees in 1898 was very heavy; I believe, judging from my own vicinity, that at least 60 percent of the bees died. I was one who had great faith in 1899, so purchast 125 colonies, which added to what I had before, gave me 173. The year 1899 proved about as bad as 1898, and all bee-keepers whom I met, of any prominence, said that our only hope of going thru successfully would be by requeening everything. With that object in view, I read and studied Doolittle's "Scientific Queen-Rearing," and began experimenting. I am glad to say I met with most satisfactory results, and reared young queens for all my colonies but six. J. W. GEORGE.
Los Angeles Co., Calif., Jan. 3.

A Beginner's Experience.

While on a visit to my brother in Maryland, last February, I found a large number of colonies housed in modern hives of different sizes, and it was thru his enthusiasm that I caught "the fever." On my return home I talkt the matter over with a doctor (a friend of mine), and we bought four box-hives of bees, and a supply of 8-frame Langstroth hives. The "tug of war" came when we proceeded to transfer the bees to the new hives, which we did on strictly beginner style, paying no regard to queens, thinking that of course they were all right, but found that we were disappointed.

Something must be done, so I began reading bee-lore, but being an old man I did not "catch on" very fast. We lost two colonies by the "French-leave" plan, and another was robbed out. We supplemented these with other purchases, and now have about the same number we started with, with reasonably well-filled frames, but they did not store a pound of honey more than will carry them thru the winter. The season was a poor one for bees.

Well, we made nothing except the big stock of experience in the business which we have stored by for the early spring. One large source of experience was gained in handling queens. June 25 we received a beautiful Italian from a well-known breeder, but the next morning after introducing her she was destroyed by balling. June 30 we received another beauty, and she was also carried out in the same manner in a few days. July 10 we received a three-frame nucleus from Kentucky, added five frames of comb, and on Sept. 25 they were full of brood and honey, which I think will enable me to rear my own queens for next season. J. M. HALL.

Daviess Co., Ky., Jan. 15.

An "Off" Year for Bees.

It was an "off" year with bees with me last year. They got very little more than enough to winter on. I put 98 colonies into the cellar, and they are wintering nicely thus far. M. M. RICE.

Grant Co., Wis., Jan. 20.

No. 1.—Medical Animals.

Nature protects its own. Call it instinct or absolute knowledge, as you will. Their choice of remedies mey not be extensive, but is evidently effective. The bee is frequently attackt by diarrheas, more or less violently, when it hastens to the wild-cherry, poplar, the red dogwood and hickory, to find the juices (sap) that cure.

Old Towser, when somewhat "off his feed," his stomach gone wrong, or liver out of fix, hies himself to the first bunch of couch-grass—the tall, strait kind with cutting edges that has often brought the blood to our fingers in our boyhood swimming-days. He makes no mistake in the variety, but bites off several big mouthfuls, and—soon doggie is well.

Gentle spring more often brings sorrows to cats; whether too hilarious living in winter be the cause is not explained, but true it is that Romeo, or his Juliet, frequently resorts to a patch of joint-grass growing handily in the front yard. They eat of it ravenously as if the tenderest "spinach-greens." No pharmacist could prepare a more effective "worm-mixture" than they have chosen. Worms are their natural enemies. But if in quest of a "love-potion"—a panacea to calm their perturbed nerves, to abate the excitement of a turbulent night—they deliberately trudge off to the barn-yard, and there, very near the corner of the old cow-stable—see?—where the ground is rich, is the luscious, big-headed "catnip," of childhood memory. There they roll and mew and eat of the succulent plant, with the zest of an epicure. Thereupon Tabby becomes exceedingly affectionate, and Tom, wise and complacent.

Dobbin, too—the dear old family steed, so gentle to the good, and patient to the thoughtless of the family—he also knows a thing or two about medicine! If he has "lampers"—the gums so swollen and painful that eating dry corn or even oats is a torture—he knows just where to find that nice, fat clump of plantain that grows so plentifully in the corner of the old rail-fence. Great, big, fleshy leaves, so cooling to hot, inflamed gums. Nice carrot-tops would do as well, if the children knew, and were thoughtful to give him.

As age advances, Dobbin gets short of breath—just as some old men are. If you

A GOOD INCUBATOR

is one of the best machines on the farm, and one of the greatest labor savers. It makes chicken raising easy and sure. Our machines are good, sure, safe and improved up to date. They have automatic regulators, safety lamp, tray adjuster, etc. Sold at low rates and

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Buy no incubator and pay for it before giving it a trial. Many people have lost faith in incubators because they bought one that was never intended to hatch chickens—merely to sell. Our new Premier Incubator is sold subject to your approval. A child can run them. We are also sole manufacturers of Simplicity Incubator. Catalogue and Poultry Helps, 5c. Poultry House Plans, 25c. Columbia Inc. Co., 5 Adams St., Delaware City, Del.

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results from the best care of the bees. That results from the use of the best Apiary appliances.

THE DOVE-TAILED HIVE shown here is one of special merit. Equipped with Super Brood chamber, section holder, scalloped wood separator and flat cover. We make and carry in stock a full line of bee supplies. Can supply every want. Illustrated catalogue FREE

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Basswood and Clover Honey In 60-Pound CANS.

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A sample by mail, 10 cents; two 60-pound cans in a box, at 9½ cents a pound; four or more cans, at 9 cents a pound. Address,

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DOUBLE THE FOOD VALUE

can be secured from grain fed to live stock if it is cooked. It is more easily digested and assimilated by the animal stomach. These ELECTRIC FEED COOKERS cook feed in the quickest and best way and with the least amount of fuel. Made of cast iron, lined with steel. Boilers made of heavy galvanized steel, made in 12 sizes. Capacity from 25 to 100 gals. Strong, well made and will last indefinitely. Order before the cold weather catches you. Write at once for free circulars and prices. Electric Wheel Co., Box 16, Quincy, Ill.

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New Universal Combination Drill. The only implement made which can be used as seeder and cultivator 1 or 2 wheels as desired. Quickly changed.

All kinds of labor saving attachments.

All our implements are guaranteed made of best material, finely finished and have tough Oak bent handles and are recognized standards of America. Send for book describing this means of success in hand seed planting and cultivation FREE.

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Please mention Bee Journal when writing.

will turn him loose into the pasture, right there in that boggy swale, near the creek, you will soon notice he has found a big bunch of large leaves, of rather strong and evil odor, but what does he care for smells if the skunk-cabbage will improve his breathing! I guess almost any of us would devour a real skunk if it kept us from choking to death!

Cattle, as you know, get hurt accidentally, or cut by human brutes. A sore is formed perhaps on the neck, often around the ears or rump. If they can reach the sore to lick it, it not only keeps it clean, but the saliva tends to coat it over and prevent the flies from infecting the hurt. If out of reach, they have a way of telling their cow-friends of their misfortune, and behold!—another bossy comes up, and, after inspection, proceeds to lick the sore, day after day, until well.

Birds have a materia medica quite their own. If feeling indisposed, from any cause, they know exactly where to find that head of millet, so full of oil, the very thing they need for what ails them. If suffering sorely they'll hop off to a large plant of hemp or wild hops, whichever is convenient, and in their seeds find the sedative for the pain they suffer. Soon you see them comfortably percht, head under wing, and asleep. Mustard is the plant they consult if their stomachs don't properly digest. These strong seeds generally do the business, and no doctor's bills to pay!

I've got a rooster, and he is paralyzed—can't walk—and I want to tell the *little* bee-keepers of the American Bee Journal family how he got into this fix.

There! the editor, Mr. York, thinks I've said enough for one printing, but if he let's me I would like to tell you about Dick, because some of *your* chickens may weaken some time. UNCLE FRANK.

[All right, Uncle Frank, next time you can trot out Dick, the rooster. Oh, but he can't even walk, did you say, much less trot? Well, may be by the next time we hear from you Dick will be "himself again."—EDITOR.]

Favorable Winter for Bees.

Bees made a better storage of honey here from the middle of September till freezing weather than they had done till that time. The winter has been favorable so far for bees on the summer stands—the only way they are wintered here. M. GILMOR.

Jackson Co., Ohio, Jan. 15.

Plenty of Rain—Nice Weather.

We have been having a lot of rain since I wrote you last. To-day is the first fair day we have had since the latter part of last year—and 'tis true, every word of it. It began last Sunday, and continued without any intermission until some time last night. It just came down in torrents. But the rain has been keeping rather shy of the the southern portion of the State. It is likely, tho, that before long they will get a much-needed soaking. I trust they may.

For about a week before it settled down to rain we had some cold weather, tho I have not seen any ice this year—for some months, I mean—except on or around the ice-wagons. There were some good frosts, but I notice that they were not hard enough to nip tender vegetation, to-wit: callas, heliotropes, geraniums, potato-vines, etc. Roses and callas are in bloom in profusion. While at Berkeley and Claremont Christmas day, I noticed that vegetation was never so tall at this time as it was then. From appearances the year is going to be a very propitious one. W. A. PRYAL.

Alameda Co., Calif., Jan. 3.

An Egg Maker
means a money maker. Green Cut Bone prepared by.... **Mann's New Bone Cutter**
doubles the egg product. Mann's Granite Crystal Grit, Mann's Clover Cutter and Swinging Feed Tray fit about every poultry requirement. Catalogue **FREE.**
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EVERGREENS
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Comb Foundation
—made by a new sheeting process of my own, which produces a clear, transparent and pliable foundation, that retains the smell and color of wax.
Working Wax into Foundation for Cash a Specialty.
I also carry a full line of **SUPPLIES**, and can furnish anything in any quantity at bottom prices—**wholesale and retail.** 1900 Catalog will be ready soon. Send me your name and let me know your wants.
GUS. DITTMER, Augusta, Wis.
Beeswax Wanted.

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with our new patent
Kerosene Sprayers
is simple indeed. Kerosene emulsion made while pumping. 12 varieties sprayers, Bordeaux and Vermorel Nozzles, the "World's Best."
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Works Perfectly.
The None Better is the simplest, most economical, the most durable and the lowest priced incubator made. Only best material used. Don't buy until you have examined our catalogue Sent for 2c. stamp.
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Root's Goods at Root's Prices
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Box 845, - Painesville, Ohio.
Please mention Bee Journal when writing.

Convention Notices.

Utah.—The Utah State Bee-Keepers' Association will hold its semi-annual convention in the City and County Building, Salt Lake City, Apr. 6, 1900, at 10 o'clock a.m. A full program in the interest of the industry will be presented, and all our bee-keepers can help themselves by aiding the Association, and in order to create a closer bond of union among our bee-keepers. As a further incentive to the success of the bee-industry, it is very desirable to have our bee-keepers from all parts attend the spring convention.
J. B. FAGG, Sec.

California.—The tenth annual convention of the California State Bee-Keepers' Association will be held in the Chamber of Commerce, at Los Angeles, Feb. 21 and 22, 1900. It will be called to order at 1:30 p.m., Feb. 21. At this time the railroads will sell round-trip tickets to Los Angeles and return for one and one-third fare, on account of the Industrial, Mining, and Citrus Exposition, which will be held in Los Angeles. Tickets good for 10 days. Let every bee-keeper bring some hive, tool or experience that he has found valuable, and we will have a good convention. J. F. MCINTYRE, Sec.

Sespe, Calif.

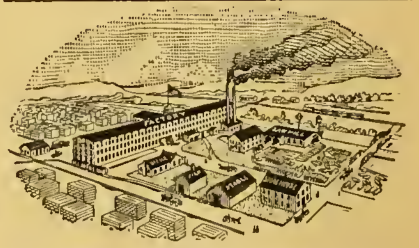
Wisconsin.—There will be a joint convention of all Wisconsin bee-keepers' societies at the 16th annual meeting of the State Bee-Keepers' Association, Feb. 7 and 8, 1900, in the State Capitol, at Madison, Wis. Many prominent bee-keepers will be there and take part.

Excursion rates of a fare and one-third for the round-trip, for railroad tickets purchast in the State, for over 50 cents each. Be sure to bring a certificate of each ticket purchast so it can be signed Feb. 8, in Madison, and entitle the holder to a third fare return.

The State Horticultural and State Cheese-makers' Associations will meet on the same date in the Capitol.

Don't forget the date—Feb. 7 and 8. It will pay you to attend. N. E. FRANCE, Sec.

Platteville, Wis.



Everyone interested in poultry is also more or less interested in incubators. There are several good articles of this nature on the market, and one of the best is the New C. Von Culin. We are informed that it works to perfection and consequently never fails to give entire satisfaction when given proper attention.

The plant of The W. T. Falconer Manufacturing Co., of Jamestown, N. Y., who are the sole makers of the New C. Von Culin Incubators, is one of the most thoroly equipt in the country, and also one of the largest, as can be seen by the above illustration. They manufacture, besides incubators, a first-class brooder and other articles used by poultrymen. Their advertisement appears elsewhere in our columns. Any of our readers who are contemplating the purchase of anything in their line should send for their catalog.

We can fully recommend the firm as being thoroly reliable and trustworthy. Please mention the American Bee Journal when writing to them.

A Prize for Incubator Users.—A prize of $5.00 is offered by the Frank B. White Co., Chicago, for the best article, written by an incubator user on the subject, "Buying an Incubator." The company wants to ascertain how current incubator advertising strikes the average poultry-man. What appeals to you most strongly in an incubator advertisement? What led you to purchase the incubator you now use? What claims have the most effect in influencing your decision? Each article must contain not less than 300 or more than 400 words, and must be sent to Frank B. White Co., Fisher Building, Chicago, before Feb. 25. We trust some of our readers will secure this prize.

IF YOU SEEK UNDOUBTED INCUBATOR VALUE
perfect regulation, perfect application of heat, perfect control of moisture, immunity from fire by lamp explosion or super-heating, buy the
ILLINOIS
Capacity 50 to 400 eggs. Hot air or hot water, as you prefer. **Egg chamber holds just what we say it does.** Nursery under egg tray for newly hatched chicks. Before you buy an incubator or brooder send for our free book, "Illinois."
J. H. JONES, Box 119, STREATOR, ILL.

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MANUFACTURERS OF

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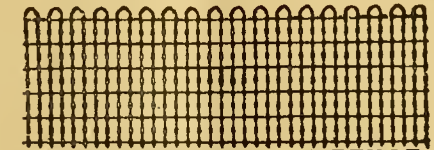

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HONEY AND BEESWAX

MARKET QUOTATIONS.

Chicago, Jan. 23.—The trade is taking but little honey; the mild weather may be one cause, but the winter is two-thirds past, and therefore the season is short in which to dispose of what remains unsold; all of our customers speak of a light demand.

Prices remain as formerly quoted, but would be shaded to more round lots.
R. A. Burnett & Co.

Cincinnati, Dec. 27—There is a good demand for all kinds of extracted honey. White clover and basswood sell at 8@8½c; amber and Southern, 6@7c, according to quality and package. Fancy comb honey in no-drip shipping-cases sells at 15@16c; darker grades hard to sell at any price. Beeswax, 26c. C. H. W. Weber,
Successor to Chas. F. Muth & Son and A. Muth.

Los Angeles, Jan. 4.—1-pound frames, 12½@15c; 2-pound cans, 2 dozen in case, per dozen, $2.50; 2-pound glass pails, per dozen, $2.50. Extracted, water white, 60-pound tins, per pound, 8½c; light amber, 7½@8c; dark amber, 7½c. Beeswax, 25@26c.

Kansas City, Jan. 19.—We quote No. 1 white comb, 13½@14c; No. 2, 13@13½c; No. 1 amber, 13@14c. Extracted, white, 7½@8c; amber, 7@7½. Beeswax, 20@22c.

The supply and demand for comb honey is light. The demand for extracted since the first of the year not so good. C. C. Clemons & Co.

Buffalo, Jan. 5.—Market bare of fancy white one-pound comb honey, and selling at 15@16c; fair to good, 12@14c; buckwheat, dark, poor, etc., 8@10c. Fancy pure beeswax, 28@30c.
Batterson & Co.

New York, Jan. 10.—Demand is very good for all grades of comb honey. Receipts are somewhat light and not up to former years. We quote:

Fancy white, 15 cents; No. 1, white, 13@14c; amber, 11@12c; and buckwheat, 9@11c., as to quality. Extracted remains firm at following prices: California white, 8½c; light amber, 8c; white clover and basswood, 8c; amber, 7½c. Very little trade for extracted buckwheat as yet. Southern, fancy, 7½c per pound; other grades, as to quality, from 70c to 75c gallon. Beeswax quiet at 26@27c. Hildreth & Segelken.

San Francisco, Jan. 10.—White comb, 11½@12½c; amber, 8@10c. Extracted, white, 7½@8c. light amber, 7@7½c; amber, 5@5½c; Beeswax, 26@27c.

Offerings and demand are both light, and this must continue to be the case until the end of the season. Business is necessarily of a retail character, but at generally firm figures, especially for choice extracted, which is in lighter supply than comb.

Boston, Jan. 12—We quote as follows: Fancy white, 16c; A No. 1, 15c; No. 1, 13@14c; buckwheat will not sell in this city. Extracted, light amber, 7@8c. Demand is very light.
Blake, Scott & Lee.

Albany, Jan. 10.—We quote: Fancy white comb, 15c; No. 1 white, 13@14c; mixt, 11@13c; buckwheat, 10@11c. Extracted, white, 8@9c; mixt, 6½@7c; dark, 6. Beeswax, 26@28c.
MacDougal & Co.
Successors to Chas. McCulloch & Co.

Omaha, Jan. 4.—Prices remain unchanged. Fancy white is still moving slowly at 14@14½c. Extracted, white, 8½c. Now that holiday trade is over and dealers have taken their inventory, they soon will be thinking of replenishing their stock and more lively trade is anticipated in the near future, but no material advance is lookt for during January. Peycke Bros.

Detroit, Jan. 11.—Fancy white, 16@17c; No. 1, white, 14@15c; dark amber, 10@13c. Extracted, white, 8c; dark and amber, 6@7c. Beeswax, 24@25c. M. H. Hunt & Son.

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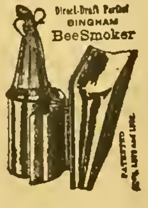

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CONTRIBUTED ARTICLES

A Wisconsin Apiary and its Management.

BY E. D. OCHSNER.

FATHER and I are the only prominent bee-keepers around here, so we have everything our own way. We have five yards—four out-apiaries and one in the village—with, I think, nearly 400 colonies at present, mostly Italians, which are very quiet bees to work with, but not superior in honey-gathering over the blacks or the cross.

Now, in regard to our honey harvest: We have white clover in June, and basswood the last of June or the first week in July, which lasts about 15 or 20 days; and later on we have the usual fall bloom, which is not much except in two out-apiaries, the yard pictured here—Indian Mound apiary—being the best, I think, as it faces south to miles of bottom lands, east to marshes, and north and west to buckwheat. This yard has about 80 colonies in Langstroth hives, mostly 8-frame, which I consider the best all-round hive for size and convenience.

The bees in the apiary shown herewith are run for only comb honey. They are splendidly located on a sandy hill, with lots of shade around, and high enough so that we made a fine bee-cave in the north side of the yard, facing north, as such is the easiest to keep cool in spring. It is 28x8 and 8 feet high, has two entrances, and will hold 100 colonies without crowding, and winter well, mostly on account of the sandy soil where it is made, and because it is walled up with plank and so is never damp, as are most of the under-ground places.

Some bee-keepers want to make a bee-cave too fine, and so put up stone walls and cement floor instead of a tight floor of boards, so of course bad results may be expected.

There are two roofs over our bee-cave, the first one covered with a foot or so of dry sand, then about two feet of dry oak-leaves, and then the second roof, which you see above the ground, and is water-proof. This cellar has never been too cold for the little workers even in so cold a snap as we had last winter.

The shanty cost only $10.00, and makes a work-shop and a place to sleep. It is under the shade of two large oaks.

The cave has two ventilators above, which I forgot to mention. Also, I am standing in front of the yard.

Two of the best yards are run for extracted honey, and we never put on an upper story without a queen-excluding honey-board. I think if more would use excluders there would be a finer grade of extracted honey put on the market, for we all know that dark extracting-frames make dark honey.

I tried one yard last summer on the no-swarming plan, by cutting cells every 8 days in the honey-flow, and I am well pleased; but I think two things helpt me—they were extracting-hives, and had clipt queens.

I like outside wintering above anything else, and have just made more chaff hives. Bees came thru in chaff hives strong last winter, but were poorly in the cellar. Nearly half of ours were wintered on the summer stands.

Foul brood we have never had, and honey-dew but once.

Sauk Co., Wis.

❧

No. 6.—The Honey-House—How to Get the Most Out of It.

BY "OLD GRIMES."

WHEN the apiary grows to a condition of profit some sort of a special building is necessary for storing the honey and appliances, and for performing the various branches of work connected with the apiary.

If the bee-keeper looks forward to the expansion of his business into many apiaries, then so much more need of a

Indian Mound Apiary, of E. D. Ochsner, Sauk Co., Wis.

special central building, and it should be at least 30x40 feet. For an extensive business a two-story building could be used to advantage, but instead of putting the two stories above ground it is better to put only one above and one below, or, in other words, make it a two-story building with one story a basement.

As there will be quite an amount of honey stored in it during a good portion of the year, also many valuable appliances, it is well to make this building of concrete, and fire-proof. Wooden buildings are liable to burn, and when a season's labor goes up in a blaze, the owner is excusable for laboring under great depression of mind. Even when building and contents are insured, there is more or less loss, and the trouble of replacing building and tools.

A nice basement in our Northern climate makes an excellent place in which to store extracted honey, and in which to winter the bees; when it is made especially for the purpose, better success attends the wintering than can be attained in the ordinary house-cellar. In constructing a basement under a honey-house, or even under a barn or any out-building on the farm, a location should be selected where the exposed side shall face the sun; facing east or west will do, but facing south is better, but never under any circumstances face the basement to the north. Sunshine revives, but if the sunshine cannot enter, the basement is always damp and chilly, and subject to mildew.

A good way to construct a basement for the wintering of bees is to have plenty of windows in the exposed side, and ante-room. The windows should have closed shutters, then the ante-room can be darkened at will, or opened and warmed by the sun's rays. The inner room should be ventilated from the ante-room. In such a house honey must be heated, wax melted, and perhaps comb foundation made. A chimney should have its foundation in the ante-room, and a range or stove conveniently located. The chimney is not only a smoke conductor, but a ventilator for the basement.

Of course, our building will have a sort of a second story above ground in the attic. This should be easily accessible, for the attic is a great place for the odds and ends, and discarded utensils.

Whatever material is used in the construction of the house it should be made fire-proof, rat and mouse proof, as the latter vermin sometimes make sad havoc with empty combs and fixtures.

A room in this house should be set apart for storing comb honey and empty brood-combs, and in which they can be fumigated. Sulphur is the old stand-by, but lately bisulphide of carbon has been recommended. This cheap material sprinkled in a room will not only keep out the moth-miller, but also the ant, and the latter is not an unmixt blessing in some portions of the country.

When the apiary is workt for extracted honey, of course the extractor will be in the upper portion, and the tank or receptacle in the basement. And whatever style of building is used for extracting, there should be a drop of a few feet from the extractor to enable the honey to be drawn off with little labor in lifting.

At the out-apiaries the Grimes family have small portable buildings. An out-apiary is not considered permanent, and if the prospect for a honey crop is better in the early portion of the season in one location, and better later in another, it is better to have the out-apiary almost on wheels. A honey-house to be portable should be constructed in panels, and bolted together. When so constructed a few moments time with a wrench allows the owner to pack it upon a wagon. It is well to make such a house of planed boards and neatly paint it; but this of course depends upon the taste of the owner. Some bee-keepers can get along with any sort of a rude thing, while others will insist upon having a fancy structure.

If made of rough boards and not battened, a very good way to make it bee-tight, cheaply and quickly, is to line it up with cheese-cloth or gunny-sacking.

Any house that is built for bee-purposes should be provided with plenty of windows covered with wire screens, and fitted with the Porter house, bee-escapes. While we like plenty of ventilation for comfort during the heated term in the apiaries of the Grimes family, we prefer to have no windows near the doors, or doors with screens. A screen door is necessarily opened many times during a day, and it attracts hundreds of bees, and they are ready to skip in as soon as the door is opened. We, therefore, dispense with screens upon that side of our buildings.

The Premiums offered on page 79 are well worth working for. Look at them.

Rearing Improved Races of Bees, or Italianizing.

BY C. P. DADANT.

MR. DADANT:—In Langstroth Revised, when speaking of the rearing of improved races of bees, you advise placing, in the spring, two combs of drone-brood in the center of one of the best colonies of such race as you wish to breed, for the purpose of securing drones from that colony, while another colony or more, also of superior quality, will be selected for rearing queens. In another place you speak of more or less drone-comb being generally distributed thru all the hives. Will not this drone-comb defeat the end in view, which is to rear the drones exclusively from the best colonies?

Also would it not be right to manufacture drone foundation in order to be able to supply such foundation for the purpose above named?

When, in your opinion, is the best time to rear queens for improving the stock of bees in a small apiary?

ANSWER.—In natural conditions bees will build in their hives probably from one-fifth to one-tenth of drone-comb. To establish a rule on a matter of this kind would be simply to open the way for discussion in which there would probably be no result, as it is very certain that many circumstances have influence over the actions of the bees in comb-building. One thing, however, is positive; it is best to rear the greater quantity of drones from the colonies which are most desirable for increase. It is also best, as far as practicable, to rear the drones and the queens with which they are to mate from different colonies. It seems that Nature has taken pains to attend to this matter since she has provided that the espousals be not celebrated in the hive, but in the open air, on the wing, in full flight.

We know also—but perhaps this is not sufficiently imprest upon the minds of many beginners—that drones in an apiary are an expensive luxury; that when they exist in large numbers they may consume the greater portion of the surplus of the colony; and that man acts wisely in preventing their being produced in such great numbers that when a number of colonies are congregated within a radius of two or three miles, the drones of one or two hives, if numerous in those hives, will very probably be sufficient to cover the space traveled by the young queens, so the latter may not fail to meet one of them in their wedding-flight.

If we place drone-combs in the center of one or two of our most populous colonies, we will be much more likely to have early drones, and numerous drones, from such colonies than from any others. On the other hand, if we take pains to remove the drone-comb as far as practicable from all the other colonies, and replace it with worker-combs in full combs or in patches, as the case may be, we will still more increase our chances of producing good males. It is, however, a fact that work as we may there will be hundreds of drones hatcht in colonies where a superficial examination would have failed to reveal any perceptible quantity of drone-comb. It is only when the cells are full of brood—sealed brood—that the projecting cappings of the drone-brood show themselves with great display. At such times a very good way to dispose of them is to shave their heads off with an uncapping-knife. The exchange of drone-comb for worker-comb, however, should be done before the breeding-season has fairly begun. Two drones cost about as much to rear as three workers, and you can rear a very nice little swarm of worker-bees in the same space in which you would have reared a host of idlers.

If the thing is done properly, the drone-comb removed from hives whose reproduction is undesirable will be useful in the hives from which breeding is desired, and if the apiary is large only a very small portion of this drone-comb will be used. It is therefore entirely useless to think of producing foundation for this purpose; and this fact has been so well recognized by bee-keepers that not one out of five hundred ever asks for drone foundation.

The patching of frames out of which pieces of drone-comb have been cut is also easier with worker-comb than with foundation, and for such a purpose it is always well to save the combs of colonies that have died during the winter, or surplus combs from colonies that are too weak to cover all their combs in early spring. Such combs may be later on supplied with foundation or strips for guides and given to new swarms.

There is no doubt that even if we remove the drone-comb from our undesirable colonies there will still be a number of drones reared that are undesirable; but this should not deter us from pushing our work in the right direction. If a farmer should not cultivate a field at all after putting in his crop under the plea that some weeds would grow anyhow, and that he might as well let all grow that want to, he would surely be following a very poor policy.

If we do not try to prevent the undesirable drones, or to rear desirable ones, on the plea that there will always be plenty of the former, we shall certainly not succeed, and if we follow the same argument in all our affairs, we will be sure to make a failure of everything.

Concerning the best time to rear improved races, or, to call it more plainly, to Italianize (for we do not know of any race that is desirable in our eyes outside of the Italians), we would prefer spring, as the job is shorter to Italianize a certain number of colonies than to wait and have to also Italianize the increase. Hancock Co., Ill.

Market Price of Honey—Comb vs. Extracted.

BY DR. C. C. MILLER.

MR. EDITOR:—In the Farmers' Voice for Jan. 13, occurs in an editorial the following paragraph:

> The market price of honey is from 10 to 15 cents in Chicago, and 12 to 14 cents in St. Louis—that is, in comb. Extracted and strained in barrels ranges from 6 to 6½ cents, while cans are one-half cent higher. The question naturally arises: Why this difference, and isn't there more honey in a pound of extracted than in the comb? Certainly, but beeswax, of which the comb is made, is worth 25 cents per pound, and, moreover, when the honey has been extracted and put in cans or barrels, about half of it is cheap syrup, and of course the price is cheaper. Honey in cans is not pure honey, and is not worth the money paid for the comb product, which it is impossible for the tricksters to adulterate. Buy or sell honey in the comb.

Wherever the Farmers' Voice is held in esteem, the effect of that paragraph will be to influence the market in favor of comb honey and against extracted honey. I produce comb honey exclusively, so it is to my personal interest to have a strong demand for comb, with little consumption of extracted. But as a matter of common fairness, I must enter protest against the erroneous statements of the Voice, which I believe it will be glad to correct when they are pointed out.

The reason that extracted honey is cheaper than comb honey is *not* because "when the honey has been extracted and put in cans or barrels about half of it is cheap syrup." When a bee-keeper puts extracted honey in cans or barrels, every drop of it is just as pure honey as that in the comb. Honey in cans *is* pure honey, altho when it gets into the hands of the Chicago adulterator it is only too true that it is debased by mixture with an inferior article. At the same time it is equally true that any one can buy in Chicago pure honey in the extracted or liquid form in any quantity, by the barrel, can, or jar. All that is necessary is to buy of reliable dealers, who are not hard to find.

The main reason for the lower price of honey in the liquid form is simply that it costs less. When honey is put in comb, every pound of the wax used in making the comb costs the bees several pounds of honey, besides the time and labor occupied in the manufacture of the comb. Quite different is the case of extracted honey. The completed combs are given to the bees to fill; when these are filled the honey is thrown out by centrifugal force, or, as it is called, *extracted;* then the combs are returned to the bees to be filled again, and this may be repeated again and again, the same set of combs lasting a lifetime. In other words, when extracted honey is sold, it is pure honey without any beeswax; when comb is sold, there goes with it a much more expensive article than the honey, altho the consumer has no benefit therefrom as an article of food. With these facts in mind, it is not necessary to explain the lower price of extracted honey by supposing it to be adulterated.

With improved laws against adulteration soon to go in force, and with the aid of the daily and agricultural press, it is to be hoped that a merciless warfare will be waged against adulteration, and that so delightful and wholesome an article of food as honey may be found as a staple article on the table of the rich and the poor.

McHenry Co., Ill.

Victory in the Chicago Honey-Lawsuit.

BY C. THEILMANN.

MOST of the readers will remember reading in the first number of the American Bee Journal for 1897, of the terrible stealing of produce from the shippers by a lot of Chicago commission men, something over three years ago, when many bee-keepers lost all of their honey of that season's crop by shipping it to them. Among them was the writer, who shipt 10,346 pounds of comb honey to H. C. Bartling & Co. It was sold to them for 11½ cents a pound, free on board the cars here, one-third to be cash on arrival of the honey at Chicago, and the rest in 60 and 90 days.

I waited about 10 days after shipping, and when no money came I went to Chicago, and found that my honey was sold (pretended, or partly hid). I demanded settlement, when a report was made out, which showed the honey all sold on commission. With the freight charges, cartage and commission deducted from the sales, it netted over $200 less than the cash sale I had made with the firm before the honey was shipt. But I gladly accepted their statement, on which they paid me $250, and promist to pay the rest later on.

I got their check certified to at their bank, and took further advice from my attorneys, Messrs. Masterson & Haft, then demanded the balance due on the statement, which they refused to pay.

Bartling was then arrested, but the justice of the peace dismist the case.

Then Bartling arrested me for stealing the statement his partner gave me. The case was tried before Justice Hoffman, four or five miles out from the center of the city, which was also dismist.

I then was re-arrested for libel, and sued for $11,500, and would have had to go to jail if I had not had a rich friend at Chicago to go on my bond. At the same time Bartling was sued for the balance of his statement before the Circuit Court, which ended with a decision and a judgment for $711.80 against Bartling. He askt for a new trial, which was granted, with the result that the judgment stood good.

C. Theilmann.

Bartling then appealed to the Appellate Court, whose judges also held the judgment good. It took a long time in these courts on account of some mistakes, technicalities, and hair-splitting among the attorneys on both sides. But my attorneys forced Bartling to give bond for the judgment and costs before he could appeal.

Not satisfied with the decisions of the foregoing courts, Bartling appealed to the Supreme Court of the State of Illinois, and I was bound to follow him to the end of the courts. This court also decided the judgment in the former courts good. That ended Bartling's appeals—he was forced to make a settlement or go to jail. He preferred to settle, and paid up Jan. 16, 1900. The libel suit was dismist some time before this, and, thank God, I again feel like a free man, and out of the teeth of one of the worst sharks in the shape of man that Chicago harbors, who did not hesitate to ruin his own father, but this Minnesota farmer and bee-keeper was too much for him. Bartling is *beaten*, and I trust he may see his mistake, and make his living honestly hereafter. To do this, he has natural gifts and abilities, if he would only make good use of them.

With all this experience and processes that I was forced to go thru in this unfortunate transaction, I feel it my duty to say to the shippers of produce and other goods: Never send anything to commission men, or any one else, before you have lookt them up thoroly in every sense—their financial standing and their character first, then their abilities in their business management, etc. Forethought is better than afterthought, and will save much trouble and losses. But if you should be so unlucky as to fall into a covered-up pit, and need legal help, see Messrs. Masterson & Haft—they have proven their manly character and their ability in my case, even if I was discouraged now and then by outsiders who did not know them better than I did. They were also very reasonable in their charges.

The so-called complicated part (and not being the real issue in the 12th annual report of the National Bee-Keepers' Union), when I called for aid, was not complicated at all. The only question was: Would the cash sale of my honey stand good, after Bartling had sold it on commission, and he himself had so reported it? The courts held that the cash was not a sale under these circumstances, and Bartling made himself liable by selling my goods and converting it to his own use and benefit; while the cash sale would have been only a trust, and could not be collected unless Bartling had some property that was not exempt. I give this part of the history for the special benefit of the readers of the American Bee Journal, so they can *look out*. The outside matters did not make the main point any more complicated, and had no effect at all on it, in the main.

It seems the Union took but little interest in this case, and let me fight it all alone. The officers who answered my letters exprest themselves very sympathetically over the matter, and I have to say again, that that was all I got "financially," and I was a member from its start.

One of the Union officers (and he is one of our best and most practical writers and bee-keepers) got so far off the track, after his advice to drop the case, to write me these words: "If you have lots of money to spend in that way, so that this course comes in a sort of amusement for you, I have no objection to your doing it." Just think, readers, what a healing, soothing plaster that was to the sore wounds I had received from one of Chicago's honey-sharks! I will forgive the writer, for it can hardly be that he knew what he wrote, his mind probably being among his bees, inserting queen-cups, or studying out some other scheme. Smart men make big mistakes sometimes.

Where a man lives 400 miles from the place of trial, to fight a case of this kind comes very high, outside of attorney's fees, but it is worth something to constitute an example, but it should not be borne by one man alone, while many are benefited by it.

I herewith tender my hearty thanks to George W. York, editor of the American Bee Journal, for the kind assistance and helping hand he gave me in this my perplexing and long-standing trial. We have reason to patronize Mr. York, as he will do all he can for the bee-keepers. No one knows this better than I.

I also want to thank Mr. Secor for a number of encouraging letters he wrote to my attorneys. I think they had a good influence. Wabasha Co., Minn.

CONVENTION PROCEEDINGS

Report of the Colorado State Convention.

The 20th annual session of the Colorado State Bee-Keepers' Association was held in Denver, Nov. 27, 28 and 29, 1899.

The meeting was opened at 10:30 a.m., Nov. 27, with the reading of the minutes of the previous session.

No set program was followed in this convention, except that on the second and third days some were appointed by a committee to introduce certain subjects.

BEST BROOD-FRAME FOR MANIPULATION.

Mr. J. B. Adams first askt the question, "What is the best brood-frame for manipulation and ease of access without considering its fitness for extracting purposes?"

Mr. Thompson—I have used the hanging frame ⅞ inch all around, the Hoffman frame without a V edge, and the closed-end frame, both hanging and standing. I consider a self-spacing feature absolutely essential to ease of manipulation, providing it is attained by the frame itself, not by staples or nails, because the self-spacing feature enables one to shove a number of frames at once from one side of the hive to the other with the chisel or screw-driver. I prefer the closed-end frame. I think the hanging variety is a little easier manipulated.

Mr. Lansdowne—The most experienced bee-keeper in my neighborhood, Joseph Shatters, prefers long top-bars to end-spaced frames with short top-bars.

H. Rauchfuss—Neither will accomplish the purpose, unless there is a staple at the bottom as well as at the top. I think I already had a better frame five or six years ago—the closed-end standing frame, because it is always square in the hive, no matter how it is nailed.

Mr. Lyon—We are compelled to use a top end-staple with the length of top-bar now used. I prefer the long top-bar.

F. Rauchfuss—The long top-bar is to be preferred. These frames are not always used in dovetailed hives of this year's make, which are not of the same dimensions as in former years. The staple-spaced frame drops down, while the frame with a long top-bar does not.

J. B. Adams—Would you have objections to two staples, one at the top and one at the bottom?

F. Rauchfuss—Yes.

Pres. Aikin—My opinion of end-spaced frames is like my opinion of metal-cornered frames—I don't care to have them. I don't want a bottom-spacer. Better make the frame square at first, then when the comb is built they remain square.

H. Rauchfuss—I handled some new end-spaced frames lately with short top-bars. They slipt past each other. Even with staples the frames need to be accurate, because the hives will not remain uniform in length.

Pres. Aikin—I have had for years a leaning to closed-end frames. The old-fashioned ⅞-inch frame always has burr-combs on top and ends.

RETAIL PACKAGES FOR EXTRACTED HONEY.

H Rauchfuss exhibited a self-sealing tin-pail as a possible honey-package, and said the workmanship showed it could be made cheaply.

Ch. Adams—It is more expensive. The cheap syrup manufacturers can afford to pay for a higher-priced package.

F. Rauchfuss—This is known as the self-sealing pail. It is expensive, tho I don't know why it should be so. A gallon pail costs 15 cents each in quantities. It is extensively used by Oliver Foster. It is all right for a honey-package. I filled one with new honey and dropt it a dozen times on a hard floor. The tin was dented, but not a drop of honey escaped.

Ch. Adams—It is a poor package to use again. It is hard to wash, and rusts on account of the rim, which prevents the moisture from draining.

Mr. Cornelius exhibited a stone preserving-jar, which he uses in his retail trade because it can be obtained cheaply. One costing 8⅓ cents holds 5½ pounds of honey.

Pres. Aikin exhibited fiber packages, the same that were referred to in last year's report. He had filled one with cold water and let it stand for ten days, without effect. Another in hot water of over 160 degrees had partially loosened in the seams. The package seemed to stand any amount of dry heat. It is furnisht either with or without a parchment-paper lining. It is sealed either by passing a brush dipt in shellac around the lower edge of the cover, or by winding around a strip of cloth dipt in mucilage. He had bought 1,476 one-pound and four-pound sizes, an equal number of each, and paid the local freight, making the total cost a little less than three cents apiece, which includes an individual business-card printed on each one. The manufacturers said that if they were used in large quantities they could be furnisht for considerable less. He considers them the coming package for the home trade. He now sells most of his honey in the candied form in lard-pails.

F. Rauchfuss—For that package to be satisfactory one must be sure honey can be liquefied in it.

H. Rauchfuss—How long does it take extracted honey to candy after the air has been expelled, so that it is perfectly clear?

A Member—About four weeks.

H. Rauchfuss—Honey that I extracted and heated in

August, to expel the air, is liquid yet. The air ought always to be expelled, because the foam that rises when candied honey is melted that had not been previously heated is an objection to the sale of the honey. But that previous heating which prevents the foam would also prevent the honey from candying soon, which would be an obstacle to depending upon the sale of candied honey in the way suggested.

Pres. Aikin—So long as the honey candies the fiber package is all right. I have never had any complaint of the foam.

J. B. Adams—My customers now prefer candied honey. They did not before.

A motion was made that each member be requested to state the number of his colonies and the approximate amount of honey for the year. After some discussion it was not carried.

THE HEALTH OF BEES IN COLORADO.

Introducing the subject, "Health of Bees," the secretary read portions of the inspectors' reports, showing that the first mention of foul brood was in 1886, and the first steps taken toward a law, in 1888; and that considerable foul brood yet existed. Every bee-keeper should inform his neighbors of the nature of the disease, and should hand them copies of the law, of which 1,000 have been printed, and should inform the inspector of the existence of bees affected. Very often the inspector does not know, and can not be blamed.

H. Rauchfuss—There is a disease far worse than foul brood. We have spared no time and money to find out about it. It seems to spread. It started with one colony in our apiaries eight years ago. Four years ago we lost 300 out of 400. It commenced April 27, and ended in June. Now the bees even die in the fall to some extent. We got some bees from a locality where they never knew the disease, and they would commence dying in a few days. Some wintered in the cellar did not have it, but as soon as they were taken out, became affected.

J. B. Adams—The statistics show a terrible state. As an inspector I can say that represents the worst, as only apiaries were inspected that were supposed to be diseased. But other apiaries not inspected are all right.

F. Rauchfuss—But it is well to let people know of the state of affairs here. I believe there is just as much foul brood in Arapahoe and Jefferson counties now as five or six years ago. Because an inspector can not find where the disease is does not show he is neglecting his duty. It was not intended as a criticism. Farmers with small apiaries often neglect their bees and let them die down without reporting. In some instances infected bees are moved from one county to another without permission.

J. B. Adams—I think there is not one case of foul brood in Boulder county where there used to be ten. But we have too much of it yet. The inspector is blamed for much that he should not be blamed for.

H. Rauchfuss—We must take into consideration that the percentage of foul-broody colonies is much larger than that shown by the reports. There is hardly any *bee-keeper* who does not burn up or cure his diseased colonies without reporting them. We treated 24 colonies without reporting them, and I know of another instance of 18 colonies so treated this year without being reported.

Mr. Brock—I think the secretary's statement is not exaggerated. There is not one yard out of ten that is clean in the southern part of Jefferson county. Around Littleton I have not heard of one that is. Last summer I bought 24 colonies, and found only one not foul. These were not reported.

Mr. Tracy—Last summer the inspector came around and askt if I had any foul brood, without asking how many colonies I had. So that apiary was not reported. But if an apiary has only one colony diseased, that is reported.

Mr. Lyon—I don't think the percentage is overestimated. If I find foul brood in my yard I treat it, and it is not reported. It is so every year. I know of one instance in which only two out of 12 colonies were not diseased, and another in which only one out of 10 was not. Those cases were not reported.

A letter from C. B. Elliott was read by the secretary, in which the following was requested by him to be placed before the Association: "Has an inspector any right to tell the condition he finds an apiary in after inspection, whether he finds foul brood or not?" Mr. Elliott further wrote he would put himself on record in this discussion as saying the inspector "has no right to tell any one whether he finds foul brood or not. He is a public servant, and should not under any circumstances tell any one the private affairs of any one he is called to inspect their bees—understand me, I am not finding fault or censuring any one. The question was askt me, and the party asking wanted the matter brought up at this meeting."

Mr. Rhodes—According to law the inspector has no right to withhold the information whether foul brood exists in an apiary or not.

F. Rauchfuss—The inspector is paid by the county, and we are entitled to know. Mr. Elliott is the very person who was very anxious to find out if *his* neighbor had foul brood among his bees, and who went with the inspector for that purpose.

H. Rauchfuss—Health inspectors are compelled to put out notices on houses where certain diseases exist, such as scarlet fever. In fact, the law does say our inspectors have to tell.

The secretary here read Sec. 3 of the foul brood law, as follows: "Every bee-keeper or other person who shall be aware of the existence of foul brood, either in his own apiary or elsewhere, shall immediately notify the county inspector of bees, if there be one, and if not, the secretary of the Colorado State Bee-Keepers' Association, of the existence of such disease, and in default of so doing shall, on summary conviction before a justice of the peace, be liable to a fine of five dollars and costs." (See also Sec. 8.) Perhaps some inspector may have been indiscreet and said something out of school about other matters than foul brood. But he can be held to account for such things as well as any other man.

Mrs. Hord—The more public the cases of disease are made, the greater the incentive to keep our own bees clean. I can not understand the motive of the question.

Mr. Jouno—Does a high or low elevation, or shade or sunshine, determine the presence of foul brood?

Mr. Brock—It makes no difference at all. Foul brood is carried from one hive to another, whether either one is high or low.

A Member—I have had bees only a quarter of a mile from foul brood, and my bees did not take it.

F. Rauchfuss—The bee-keeper may do much to prevent his bees from taking it, by handling them so they will not get started to robbing, and if he notices they are robbing somewhere else, he should find out where, and take the proper measures to have it stopt.

Mr. Bates—I live on the Platte River bottom, and have 30 or 40 colonies. One man who lives above on high land has more foul brood than I have. I have reason to believe it is all carelessness. I think the inspectors don't do their duty as they should do. I brought bees nine years ago from Nebraska to West Denver. A few blocks away a few hives of bees were inspected by the inspector, who found six out of seven rotten with foul brood. The owner was away. I was with the inspector, and heard him tell the owner's wife to take care of them. I went four or five days later, but the owner did not want to kill the bees. The inspector should burn a colony right away. I inspect my own bees, and when I find a diseased colony I burn it up. Just as long as it is neglected we will never get rid of it.

Ch. Adams—The last apiary I visited had foul brood. According to law I had no right to burn the diseased colonies before five days' notice.

Mr. Bates—I don't know whether the inspector has the right or not, but he should have. I have had foul brood caused by the neglect of others, and know it. A neighbor of mine made a pile of his diseased hives and covered it with nothing but canvas.

Mr. Rhodes—Ch. Adams is correct—the inspector has no right to burn immediately. The law is lame in that respect, and also in that the inspector has no forfeit to pay if he does not do his duty.

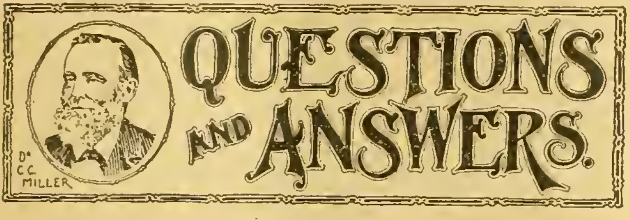
H. Rauchfuss—Our law provides for that. Section 8 says there is a fine if any person exposes sources of infection—even *before* the five days' notice is up.

QUESTION.—How long do you starve foul-broody bees after transferring, when there is no honey in the field?

Mr. Milleson—I put them in shape so they don't have anything to eat all winter—that is my invariable rule. It is cheapest, causes least anxiety, and doesn't cost very much to destroy them. It makes vinegar material, and material for the wood-shed, and saves so many chances.

J. B. Adams—I would burn out the hives with kerosene, and use them again.

[Continued next week.]



QUESTIONS AND ANSWERS.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Making Swarms Stay Hived.

After my bees swarm I have trouble in getting them to stay in the new hive. Can you give me any advice as to how this difficulty can be overcome? PENNSYLVANIA.

ANSWER.—It's a tolerably safe guess to say that the hive is too hot and close for the swarm. Manage some way to have the hive cool and airy for at least two or three days. Raise up the hive, or leave the cover partly off, or both. Don't let the hive stand in the sun. Sprinkling well with water will help. If you give the swarm a comb of brood, they are not likely to leave it.

◆

Getting All Worker-Comb from Starters.

How do you manage to have combs built on starters by any colony having a laying queen, and have worker-comb constructed? ILLINOIS.

ANSWER.—The surest way to have all worker-comb is to have your "starters" fill the frame entirely, and many are of the opinion that this is the most economical way. Yet with proper menagement you can have all worker-combs and use only small starters. Only it may cost you more in the long run. The knowledge of a few basic principles will be serviceable in the case. Bees with a young queen are less inclined to build drone-comb than those with an old queen. The stronger the force of workers, other things being equal, the more the danger of drone-comb. A newly-hived swarm is not likely to build drone-comb the first few days after being hived. Applying these principles, you will give the preference as comb-builders to those colonies that have young queens. When a swarm is hived, instead of allowing it to start on 8 or 10 frames, finishing the combs to the bottom only after a number of days, confine the bees on 4 or 5 frames till these are entirely filled with combs, then give drawn-out combs or frames filled with foundation to fill the hive. If some combs are built with little patches of drone comb in them, cut out the drone-comb and give the frames to nuclei to complete.

◆

What to Have Over the Sections.

What is the best thing to use on sections in the hives—enameled quilts, tin sheets, or nothing? ALABAMA.

ANSWER.—A very light covering only aggravates the case, for the bees will raise it up by thrusting bee-glue under, and then thrust in more glue to fill up the space thus made. If the covering be sufficiently heavy, there will be only a small distance into which the bees can thrust the glue, but they will make desperate efforts to fill that small space, so that many think it is better to leave a bee-space over the sections without any covering.

◆

Has the Bee an Extra Sense?

I see by Dr. C. C. Miller's answer to my second question, on page 6, that he questions the truth of my statement. Now, if the Doctor will come to my place, when it is time to hunt wild bees next fall, I will convince him that bees will do *just as I stated*, or pay him $100 for his trouble, and pay his traveling expenses both ways. MASSACHUSETTS.

ANSWER.—I did not understand you to say you had positive testimony that bees would do as you said. If you have had positive proof, I'd rather take your word for it than to come and investigate. Still, I'd like to come and take a tramp with you after wild bees, unless you'd go too fast and lose me in the woods.

Hello, here comes another man to corroborate your statement, at least part of it:

FURTHER TESTIMONY ON THE SUBJECT.

On page 6, "Massachusetts" askt why a bee taken from a flower, we will say south of the hive or tree, and carried north and beyond its home, when liberated goes north and away from its home. In your reply you say you don't know, and before believing a bee will do this you should want reliable testimony. All that you will wish for testimony will be to try it. As a bee-keeper of more than 40 years, and a bee-hunter for nearly as many, I find it true, that when we are hunting bees and catch them when out working on flowers, and carry them past their home, they invariably start and go out of sight the same direction they would have done from the flower when gathering honey.

As to the next time, as "Massachusetts" says, after filling its honey-sac it goes direct home, my experience is that not one bee in ten will ever come back to your bait again when carried to the opposite of its home when caught while out gathering honey. That bees can get "turned round," as we say, I feel sure of, as once when hunting them I caught a large number that were working on a basswood tree, the tree standing a little more than half way up a steep mountain, and on the east side of it. These I fed as usual, and every one went east toward the hive. Just to see what they would do, I filled my box and took a lot of bees from perhaps ten, and carried them just over the top of the mountain, and down part way on the west side, and to my surprise every one of them went west. They circled as if they were not sure where they were, but went down the mountain as before, only in just the opposite direction.

The bee-hunter that has not had much experience often "gets left," as we say, by carrying bees beyond the tree he lines in, as every one, if thus carried, will go in the same direction it would from the flower when caught unless carried over a mountain, as mentioned. GEO. S. WHEELER.

Hillsboro Co., N. H.

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Probably a Queenless Colony.

On Sept. 22, 1899, I introduced to colony No. 9, a select breeding queen purchast for $2.00 from an Arkansas breeder. Of course, I had previously disposed of the hybrid mother. This Italian queen was accepted and commenced laying. There was no honey coming in, but I was feeding up the colony, as they were somewhat short of stores. Dec. 23 was a warm, pleasant day, and the bees were out for a flight in the afternoon. Dec. 25 I found a dead queen on the alighting-board of No. 9. Jan. 6 and 7 were warm days, and the bees were out in the afternoon. Jan. 19, 20 and 21 were also warm, and during the afternoon of the 20th I noticed that the bees in No. 9 were uneasy, and I strongly suspected from their actions that they were queenless. This afternoon (21st) I noticed that No. 9 was having quite a time with robbers, which appeared to be all coming from hive No. 3, about 25 feet away.

Now, I would like your opinion as to the queenless (or otherwise) condition of No. 9. Do you imagine that the queen I bought was old and nearly played out at the time I introduced her? What can I do, now, with No. 9 in order to save it? I think the bees have enough honey, tho I have not opened the hive as they are well packt on all sides but the front, with straw; they are on the summer stands. I can put No. 9 above a strong colony with a queen. Can I unite in this way at this time of the year? I have no cellar where I could put this No. 9 colony until spring opens. IOWA.

ANSWER.—The testimony points pretty strongly to queenlessness on the part of No. 9. The queen may have been at fault, and she may have been all right. Sometimes such things happen with a good queen.

The probability is that the colony is quite weak, and in that case the best thing may be to let things entirely alone, letting the bees rob out the honey that is in No. 9, for it will not be wasted; and if you go to making changes you may start robbing in some other direction. If, however, No. 9 is strong in bees, it might be worth while to try putting it on top of a strong colony. With not too free communication between the two, the chances are in favor of peaceable uniting; but if you leave the least chance for an entrance from the outside to the upper hive, look out for a bad case of robbing.

◆

Top Hive-Ventilation—German Bee-Paper.

1. Last spring I bought a colony of bees which I divided, and both swarmed, one of which flew away, which left me 3 colonies. I bought 2 Italian queens, and after uniting 2 of the colonies, I Italianized them in September. In October I put them into a house, one hive on top of the other. In December I lookt at them and found one hive wet inside. I then moved them around and left them. January 7 was a fine day, about 48° above zero. I took the bees out for a cleansing flight, and many froze to death. I then put the hives back again, and the next day lookt at them and found water running out of one of the hives. I then ventilated the hives on top, and put a 2-inch piece of wood under one end. They appeared to be strong, with plenty of honey. Is the top-ventilation right?

2. I would like to know what honidug or thaa is. I had lots of bees in Denmark, but kept them out-doors the year around, and never lost a colony.

3. I am a German and don't understand much English. Is there any German bee-paper publisht in America? ILL.

ANSWERS.—1. If your bees are set in a house, as seems to be the case, that is not considered good practice, that is, if they are entirely enclosed. If they are in a house as is practiced in Germany, the front of the hive being free, that is all right. The ventilation you have given may be all right, but it might be better to have cushions or cloths on top that would allow the air to pass slowly thru, and still keep the bees warm.

2. What you inquire about as "honidug or thaa" is probably honigthau, which is German for honey-dew, which some think to be in all cases the sweetish liquid thrown out by aphides or plant-lice, while others think it also is produced in some cases as a direct

exudation from plants. If your bees had much of that for their winter stores, they will not winter so well as upon flower honey. Sometimes, however, it seems to be all right.

3. No bee-paper is publisht in this country in any other than the English language. Some of our ablest bee-keepers in this country are German, but they are familiar also with the English language in nearly all cases, and a German bee-paper could hardly have a living support. Some, however, get bee-papers from Germany, where some able ones are publisht. We owe a deep debt of gratitude to Germans for their careful investigations, especially to Dr. Dzierzon for the Dzierzon theory.

Locating an Apiary.

Inclosed is a rough drawing of a section of country in Winnebago County, Wis. I would like to get your opinion in regard to which place you think would be the best to locate a bee-yard. You will see by the drawing where they were last season, and another place markt where I had some thought of placing them next season. This is a level country, no hills and no woods to fly over; the river is about 40 rods wide, and a good many bees drop in the water on days that are still and no wind, when they are loaded heavy with honey.

I have 114 colonies in the cellar, but they are not doing as well as you say yours were Jan. 5. WISCONSIN.

ANSWER.—Your question is exceedingly difficult to answer. As I understand the drawing, the question is between the location you had last year and one a mile farther south. Last year's location seems to be more fully in white clover, while the new location brings you nearer a patch of basswood (which, however, was not so very far from the old location,) and nearer a marsh of wild rice and fall flowers. On the whole, as there is a good allowance of white clover and a little better chance on the other things, it is altogether likely that the southern location may be the best. You can only be sure of the matter by trying a number in each location in the same year. Even then, it is possible that another year might not show exactly the same result.

Getting Honey and Increase.

In order to obtain the most honey and at the same time double the number of colonies, would it be a good plan to take, about the first of June, one frame with the queen and adhering bees to start a nucleus with, allowing the parent colony to rear a young queen? Would this plan be likely to stop swarming, or would the bees be likely to swarm with the first queen hatcht? If you know of a better method that is not too laborious kindly let me know. SUBSCRIBER.

ANSWER.—You can hardly take a surer plan to make your bees swarm than the one you propose. Instead of that, you might take from the old hive all but two or three of its combs, taking with each comb its adhering bees, putting these on a new stand, leaving on the old stand the two or three combs with the old queen, filling up with foundation.

Perhaps Pickled Brood.

We have had bees for about 15 years, and they had been very healthy until the spring of 1897, when I noticed dead brood in several hives. I at once supposed they had foul brood. I read up carefully on the subject and again examined them, and decided that they didn't have foul brood.

About 5 or 6 colonies are badly affected, and two swarmed out. I destroyed their combs. One colony got away, and the other one I hived on empty combs and they did real well.

While I was trying to devise some treatment, new honey and pollen began coming in, and the disease disappeared as if by magic. It did not appear again that year, or in 1898, that I noticed, except one or two colonies I thought were slightly affected, but last year (1899) it appeared again with a vengeance. I found evidences of the disease in about 90 percent of my colonies, and am inclined to believe that all were more or less affected.

SYMPTOMS.—I winter my bees in the cellar. Last winter they had the dysentery before removing them, and their combs were quite foul and moldy—the mold seemed to extend into the bee-bread as well. I fed sugar syrup and placed corn meal within easy reach of them to stimulate brood-rearing. Their first brood seemed all right, but within less than a month the brood began to die. In some colonies the bees would seem to shrink from the dead larvæ and leave them in the cell, while in other colonies they would remove the dead and you would hardly notice the disease.

The dead larvæ in the cells usually remained white for a day or so, then they would turn a light brown color and became watery and soft, but would not be "ropy," nor give off an offensive odor as in foul brood. The larvæ were invariably attackt just before they were sealed, but some brood died after it was sealed.

The old bees seemed to be affected, too, as the bees disappeared from some colonies, and good young queens disappeared quite often also. I know that my bees were thoroly disheartened, and swarmed out very often.

The moths that never used to attack my Italian bees seemed to have perfect freedom to do as they pleased, and they workt great havoc.

I read an article on pickled brood, and I suppose that is what ails my bees. I know that the bee-bread seemed to be moldy, and as the year was a poor one, the bees did not replace it with fresh.

What I would like to know is, what ails my bees and what I must do to get rid of it. What is pickled brood? Is pickled brood caused by mold in bee-bread? Would it remove the cause of pickled brood to cut out all bee-bread in the spring and feed flour, meal, etc., in its stead? Would medicated syrup help to effect a cure? How can I remove pickled brood? Is there any book on pickled brood? IOWA.

ANSWER.—Answering your questions as a job lot, without taking them in exact order, this matter of bee-diseases seems to be getting more complicated all the time. At present they are having a time in New York, especially the eastern part of the State, with a disease that seems much like foul brood, but is now said with positiveness not to be that disease. Just what it is, and what is the cure for it, seems left for the future. Your disease may be pickled brood, but I don't know enough to say positively. There is no book on pickled brood, I think, the nearest to it being a leaflet publisht at the Bee Journal office. Page 577 of this journal for 1896, and page 530 for 1898, give a good deal of information as to pickled brood. Instead of becoming ropy and foul-smelling, the brood seems to sour and become watery without any smell. Moldy pollen favors the disease, and a plenty of fresh pollen favors its disappearance. From that it would appear that your suggestion to cut out all pollen and give a substitute ought to be a benefit, but I don't know for certain. There seems to be no testimony in favor of feeding medicated syrup.

A sample sent to Dr. Wm. R. Howard, 502 Main St., Ft. Worth, Texas, might decide at least what the disease is.

Increase by Swarming and Dividing.

I have 5 colonies of Italian bees and want them to swarm once. Would it do after they cast a swarm to divide the old colony into 4-frame nuclei, and introduce a queen in each?

In the A B C of Bee-Culture, page 204, it says there is one objection and that is, some of the bees will return to the parent colony. On the same page it says of Mr. Somerford's plan, that he leaves a queen-cell in each hive and stops the entrances with moss, and lets the bees gnaw out; by so doing they all stay.

I can't do this, as my neighbor keeps black bees. Would it answer the same purpose to close the entrance to the hive after introducing the queen? ALEXANDRIA.

ANSWER.—Yes, from each colony that has swarmed you can make two nuclei having four frames each, and if the season is good enough they may make their way without any help, otherwise they will need help. You can use the closed-entrance plan all the same, whether you introduce queens or not. But in your case it will hardly be necessary to close the entrances, for dividing the mother colony in two will give you pretty strong nuclei. If you put the swarm on a new stand, and leave one of the nuclei on the old stand, you will certainly not need to close the entrance of the the nucleus left on the old stand, for no bees will leave the old stand. The probability, however, is that you will put the swarm on the old stand; and if at the time you do that you divide the old colony into two parts, setting each part in a new place, enough bees will be left in each to make a good nucleus. A day or two after swarming, cut out all queen-cells in the nuclei, and they will be in good condition to receive a queen.

Making Nuclei—Stimulative Feeding.

1. I was much interested in Mr. F. L. Rehn's nucleus method on page 33, but I cannot understand how he keeps the bees in the nuclei from smothering after he "plugs the entrance with fresh grass as tight as possible and nails a strip of wood across," and leaves them so for 5 days.

2. Also, he mentions in two places that he gives frames with ¼ sheets of foundation; would it not be as good or better to give full sheets?

3. Will sugar syrup do for stimulative feeding? HOSPER.

ANSWER.—1. If you have ever tried closing tight a strong colony on a hot day, I don't wonder that you think it might be dangerous. But it is quite a different matter when you put only two or three combs with adhering bees in a full-sized hive, and you could hardly seal the entrance close enough to smother them.

2. I think the full sheets would be an improvement.

3. Yes, but it is not considered so good as honey. The Germans do a good deal in that line, and favor the use of honey and pollen masht up together.

If you are intending to follow the example given, it may not be out of place to remark that you will hardly get so good queens if cells are started in weak nuclei.

Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Upon receipt of $1.00 for your Bee Journal subscription *a full year in advance*, we will mail you a Wood Binder free—if you will mention it.

AMERICAN BEE JOURNAL.
ESTABLISHT IN 1861 OLDEST BEE-PAPER IN AMERICA
DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS

PUBLISHT WEEKLY BY
GEORGE W. YORK & COMPANY,
118 Michigan Street, Chicago, Ill.

[Entered at the Post-Office at Chicago as Second-Class Mail-Matter.]

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The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "Dec00" on your label shows that it is paid to the end of December, 1900.

Subscription Receipts.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows you that the money has been received and duly credited.

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VOL. 40. FEBRUARY 8, 1900. NO. 6

EDITORIAL COMMENTS

NOTE—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

Mr. Theilmann's Honey-Lawsuit.—We are pleased to be permitted to give a short history of this celebrated case. Mr. Theilmann deserves the hearty thanks of every honey shipper for his Boer-like tenacity and genuine fighting qualities shown in running down a Chicago commission shark. If only the others, who at that time (in 1896) could have had a similar dose, it would have been very beneficial to the legitimate commission business and a satisfaction to many honey-producers.

We desire personally to congratulate Mr. Theilmann upon the success which has finally crowned his efforts in this exceedingly trying case. While to push the case to a finish undoubtedly cost about all the over 10,000 pounds of honey was worth, it is money well invested. Mr. Theilmann has not only done a good thing for himself, but has placed every bee-keeper in the land in his debt. Hurrah for Mr. Theilmann and all who helpt him get deserved justice!

Some Articles on Honey-Production—a connected series—will be publisht in the Bee Journal before July 1, next, written by that very practical bee-keeper and fluent writer, Mr. R. C. Aikin, of Colorado, the hustling president of the Colorado State Bee-Keepers' Association. The series will begin with comb honey, giving the details of management which is the foundation of success. Before they are closed there will be a treatise on extracted-honey production, following up the whole matter to the marketing of the product.

It will pay every one of our subscribers to read Mr. Aikin's articles carefully, and try to put his excellent ideas into practice. His articles alone will be worth more than the dollar subscription price of the Bee Journal, to say nothing of the many valuable articles written by Messrs. C. P. Dadant, G. M. Doolittle, Prof. Cook, and others. The bee-keeper who can not get back more than his little dollar investment in the American Bee Journal each year, must be a queer specimen of humanity. He certainly can't be very much interested in making a success with bees if he isn't wonderfully helpt by what some of the leaders in bee-keeping write for these columns every year.

Educating Customers as to Candied Honey.—Whatever may be said for or against selling honey in the granulated form, there is no disputing the fact that whoever succeeds in getting a set of customers educated properly as to the matter will have an easier time of it ever after. There seems just now to be a mild tide setting in favor of the practice, and Dr. A. B. Mason is found in the ranks of those who have "good words" to say for it. He says in the Bee-Keepers' Review:

"Several months ago I was in a grocery in this city and saw several dozen jelly-tumblers of candied honey that had evidently been put aside as unsalable. I saw the producer's name (a Michigander) on the label, and knowing the producer well, I knew the honey was all right. I askt one of the salesmen if they had any good extracted honey for sale. He said, 'No; we have some adulterated stuff we *bought* for honey, but it's no good.' He showed me some of it, and I soon *showed him* that it was first-class honey, and how to put it in the same liquid condition it was in when they bought it; and I believe they now sell more candied honey than they do of the liquid."

Sub-Earth Ventilation for Cellars had a good many advocates a few years ago. The theory was that if the air could enter thru tile buried four or five feet deep, it would enter at a raised temperature, thus giving fresh air without cooling off the cellar. One after another of its advocates have apparently abandoned it, and now Dr. Miller, one of its most faithful adherents, confesses in Gleanings in Bee-Culture that his sub-ventilator has become clogged, and that he has not taken the pains to clean it out, because he is a little skeptical that the *quality* of the air thus introduced is not as good as that which finds its way thru the cracks in the walls of the cellar. But he insists as strongly as ever upon the advantage of a stove in the cellar when the temperature is too low, and even when not too low, but when the temperature outside and inside is so nearly alike that there is no change of air.

Eccentricities of Candied Honey.—The editor of Gleanings in Bee-Culture says that at the Colorado convention some of those present reported that their honey, after candying solid, would return partly to a liquid form. Indeed, in some cases it happened that one can would candy solid, while another, *filled out of the same lot of honey at the same time*, would remain liquid. Editor Root explains:

"As we learned later in the convention from Dr. Hedden, of the Colorado Agricultural College, there is only a certain portion of honey that really candies or assumes the granular form. Honey is made up of two elements besides water—levulose and dextrose. The latter candies, and the former remains a liquid. When one looks at a jar or pail of candied honey it seems almost impossible to believe that every particle of it has not candied. But the Professor explained that, if the mass were subjected to a heavy pressure the liquid portion (the levulose and water) would be squeezed out."

The Rich Honey-Fields of Colorado.—Editor Root, of Gleanings in Bee-Culture, was surprised to find how densely some portions of Colorado were occupied by bees, altho these areas are limited, for not a tenth of the State is likely ever to come under cultivation. There is supposed to be considerable overstocking in places, for the amount of the crop rises and falls to some extent with the number of colonies on the field, yet there seems to be no overstocking in some places where the density of occupation would prove ruinous in ordinary locations. J. E. Lyon has about 500 colonies in a location where there are 2,000 colonies within 5 miles of him; and there are locations where 300 colonies can be kept in a single apiary. This is possible where alfalfa and sweet clover both abound. Mr. Root adds:

"Now let me give a word of caution to the tenderfoot of the East who may look with longing eyes over toward Colorado. Take my advice. Keep out of it. The good bee-localities are already overstockt, and I did not learn of a single place where the Easterner or anybody else could locate and go into bee-keeping profitably, or, perhaps, I might say *honorably*, because the localities have been so thoroly taken up that it should be a matter of honor for others to keep out. I know of no way in which one can go into these fields without buying some one out."

Sweets for Children.—In a recent issue of the Ladies' Home Journal, Mrs. Rohrer wrote on "The Use of Sweets by Children," and among many excellent things we find this paragraph:

"We have in common use another sweet—honey. This is prepared by the bees from the nectar of various plants; it contains two kinds of sugar—one capable of crystallization, the other not. The former is similar to ordinary glucose. Honey may be taken in small quantities with bread and butter; it should be used from the comb, unstrained. It contains 78.74 percent fruit sugar, with only 2.69 percent of cane sugar."

But we don't quite understand why Mrs. Rohrer should advise the use of comb honey in preference to the extracted, or "strained," as she probably would call it.

Likely Mrs. Rohrer does not know that in all probability two-thirds of the annual honey crop is of the extracted kind, and doubtless the greater part of the honey used for table purposes is in the liquid or extracted form.

As that great honey specialist, Mr. W. A. Selser, lives near the office of the Ladies' Home Journal, perhaps he can call in some time and enlighten Mrs. Rohrer on the subject, or at least learn her reasons for recommending comb honey exclusively.

Eucalyptus for Honey and Health.—Dr. J. McLean, of Alameda Co., Calif., writing us Jan. 3, had this to say about eucalyptus and its honey, as well as something about the value of the tree as an impurity absorber for cities:

Dear Sir:—It has just occurred to me that it might be well for you to know—if yet unknown to you—that honey obtained from the flowers and leaves of the eucalyptus tree is worth 50 percent more than any other honey, however fine in quality it may be. I have for many years used it in Australia for many human ailments, with wonderful results every time—no human mixture can equal its curative properties, and were mankind made conscious of the marvellous benefits to be derived from the use of such honey, an extensive and ready sale would be sure to follow.

I am, however, conscious of the difficulty you would have in your peculiar climate to successfully cultivate eucalyptus plants of the eucalyptus globulus, or of the eucalyptus anygdalena species, yet there are others in the 150 different varieties quite hardy enough to thrive well with you, and would form splendid wind-breaks and hoar-frost-destroying fringes around your vineyards and orchards—planted 8 feet apart, and, helpt properly to grow until one or two years old, no invasion of locusts or grasshoppers could approach the enclosure within 30 or 40 feet.

Bees love to work and rest amidst the evergreen eucalypti foliage, because of the agreeable warmth and sweet odor evolved all the year around from such.

Eight years ago I suggested in a treatise on the fever-destroying properties of the eucalypti, that fringes of choice eucalypti plants should be planted on the streets in Chicago by the corporation, placed in suitable guards so that six or more plants be placed in charge of every adjacent residence, and an annual reward be given for the best kept plot of plants—on an arbor day set apart for the special purpose of encouraging the growth and ornamental appearance of said plants.

If such a course were adopted, you might ere long transform the now unbearable, stewy summer heat, and perishing winter colds, into most agreeable and healthful temperatures during those seasons in and around your city.

For 20 years I was officially connected with forestry in Australia, and therefore know something of what I now suggest. I would be pleased in any way to aid the Chicago corporation should such an idea be favorably considered, even to the supervising of the planting operations.

Sincerely yours, DR. MCLEAN.

Certainly, it is very kind in Dr. McLean to offer to aid Chicago in an effort to become healthier by planting eucalypti. We wish the "city fathers" could be interested in the matter, but fear it would be a hopeless task.

Distance Bees Work.—Mr. Ira Barber gives some items in the Bee-Keepers' Review. In 1871 his bees workt on celandine or touch-me-not that covered a fire-slashing whose nearest point was four miles from him, and the farthest point nine miles. His bees were just as busy nine miles away as four miles, bringing in 5,000 pounds of celandine honey for which he got 25 cents a pound. His bees work on linden eight miles and more away. In 1897 they gathered 3,000 pounds of honey from lindens ten miles distant. He thinks bees prefer long distances. His bees have workt on alsike clover five miles away, when abundance of it was scarcely visited close by.

"Again," he says, "I have seen basswood blossoms fairly float with nectar right in my bee-yard, with colonies right under the branches, and remain there all day with scarcely a bee to be seen on them, while the entire force of the yard was going miles from home, in search of the same kind of honey."

The Weekly Budget

MR. T. F. BINGHAM, of Clare Co., Mich., writing us under date of Jan. 30, said:

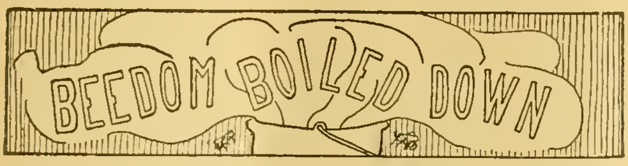
"My bees are doing well. We have no sleighing. The cellar is at 47 degrees, and not below 46 degrees so far, with bees quiet. It has usually been 50 degrees."

* * * * *

DR. MASON says this among his "good things" in the Bee-Keepers' Review: "I believe we as bee-keepers and honey-producers owe Bro. York a vote of thanks for inaugurating such a course"—talking bees and honey to school children. He thinks that parents of the children and others might be invited in, and that interest might be added by the use of large drawings of important parts of bees, also samples of honey.

* * * * *

MR. O. L. HERSHISER, we understand, did some good work in the Buffalo, N. Y., public schools the past year, in talking on bees to the scholars. We believe he was invited into nearly all the schools, and with bees, hive, and other things apiarian, enlightened the young minds a good deal concerning the little busy bee and its work. Mr. Hershiser was invited to do this by the superintendent of schools, we believe. It would be a fine thing if more of the kind could be done in every public school in the land.



Plain Sections do not sell so well in the west as the old style, according to F. L. Thompson, in the Progressive Bee-Keeper, for retailers must have it explained to them that plain sections hold as much as the others before they will take them. He says:

"Plain sections have as yet just two advantages, and no others, over all other sections; they are easily scraped, and there is less wood in proportion to the honey, because the comb comes closer to a straight edge laid across. In other respects, they are not perceptibly better filled than the old-style sections, and I'd like to know the color of his hair who is going to prove they are. They have no particular disadvantages; and when plain sections can be bought cheaper than any others, then they will have two more advantages. But at present they only have the two referred to."

The New York Disease Not Foul Brood.—Editor Root attended the convention of New York bee-keepers at Geneva, and of course the new disease that is making such ravages in eastern portions of the State was a live topic. Editor Root says in Gleanings in Bee-Culture:

"From all the evidence presented, I feel sure in my own mind, at least, that it is not foul brood, because it differs in quite a number of important symptoms. Prof. Benton, from the Department of Agriculture, stated that so far the examinations with the microscope had *not* shown the *Bacillus alvei* in the diseased matter that had been sent to the Department from the affected districts. The preliminary examinations of Bacteriologist Howard, of Texas, seem to be to the same effect. It appears, however, whatever it is, that it is very contagious as well as destructive."

Home-Made Bicycle Foot-Power Buzz-Saw. — The time has come when bicycles that have been cast aside are by no means uncommon, and of one of these C. H. Pierce has rigged a power to run a buzz-saw. He says in Gleanings in Bee-Culture:

"It is the easiest-running foot-power saw I have ever tried. The saw revolves about 3,500 times per minute. I use it and the parallel gauges. In cutting off I have to pedal backward; but to a man used to the motion of a bicycle, that is nothing. In ripping I change my saw and pedal forward, drawing all my stuff toward me with a stick with a short sharp brad in it. The boards, being all short, are just as easy to handle, and all dust is thrown from the operator. The fly (or belt) wheel is the rear wheel to a bicycle, and in place of the tire it has about seven pounds of lead run into the hollow rim to give the wheel weight. Any one used to wheeling can sit in the saddle and work this machine with perfect ease."

Bees in a Schoolroom.—Prof. C. F. Hodge, of Clark University, tells in Gleanings in Bee-Culture how he awakened interest by the use of nature itself as a text-book. He says:

"For an entire season I had a honey-section hive in my study-window, and the whole time it was the most fascinating thing in the room. It was made from an ordinary pound section by driving brads into the corners, letting them stick out half an inch at the bottom for it to stand on, and ¼ inch from the sides and top to insure a bee-space all around. The glass case that fitted over it was made simply by cutting glass the proper size, gluing the corners together with narrow strips of cotton cloth, and carefully searing hot beeswax into the corners on the inside to prevent the moisture of the bees from softening the glue. To stock it I put in a handful of bees with an old queen which I wisht to supersede. She laid the little hive full of eggs, and then decampt. The bees immediately set to work making queen-cells; and, happening to be cutting out a lot, I put in two large queen-cells—one of them, with malice aforethought, protected with screen wire.

"The queen from the unprotected cell emerged first, and then I had the whole story of 'piping' and 'quahking' where every movement could be easily observed. At noon of the second day after piping began, the colony cast a swarm, which clustered about the size of a spool of thread, in the snowball bush in front of the window. I hived it back, removing the offending quahker, and the young queen staid, and laid, and kept up the colony until cold weather. I saw her take her nuptial flight. She was gone about 10 minutes, and returned with the organs of the drone. Within 15 minutes after the bees had removed these she flew again, and in 5 minutes returned with a second trophy of success.

Almost any day I could see a little bee emerge and make its first toilet—a most fascinating performance, and at all times I could observe the bringing-in and disposal of honey and pollen. I painted bees with different colors, and watcht them work from daylight to dark—that is, I watcht them from daylight to dark; but no single bee that I watcht ever workt more than 3½ hours a day. Then there were all the different divisions of labor—the field-bees, the nurse-bees, the wax-producers, the police, the barbers, the drones, and the queen.

"I mention all these things to show how many interesting points in the natural history of the hive can be intelligently observed and studied in so small a device—an old honey-section, a handful of bees, a discarded queen-cell, and a few scraps of broken glass, all of which need not cost a penny. And I will guarantee that it will be worth more to a roomful of children than $10 worth of books about natural history; but, of course, we need some books as well. And with all that has been written, not half the whole story of the hive has ever been told."

Burr-Combs.—Messrs. Aikin and Doolittle have their own times at having little family quarrels (?) in the Progressive Bee-Keeper. Mr. Aikin advocated divisible brood-chambers. Mr. Doolittle objected, amongst other things, to the burr-combs built between the parts. That was Mr. Aikin's chance, and he was prompt to recall that a certain man whose initials were G. M. D. had championed burr-combs, saying they "were fine things—made 'ladders' and steps for bees to 'climb to supers.'" But the big man with the small name was equal to the occasion, and smilingly replied that burr-combs are one thing between the parts of a divisible brood-chamber, and quite another thing between topbars and super—in the first case, "a disgusting, bee-killing, temper-losing, *non*-paying nuisance;" in the second case, a *paying* nuisance. In favor of this latter view he makes out a stronger case than ever before. A fresh argument in favor of burr-combs is that when an escape is put under a super, the bees fill up on the honey that is in the burr-combs instead of tearing open the sections. His heavy artillery, however, is a dollar and cent argument, after the following fashion, which also appears on page 37 of this journal:

"This past poor season I had several colonies which did not have a single ladder on top of the frames, while the majority did so have, from 1 to 10, perhaps 12 to 15, on some. Those colonies having *ladders* to the supers, gave an average of about 10 filled sections more to the colony than did those having no ladders. This honey averaged me 12 cents per pound net, or $1.20 was given by those laddered hives or colonies over the no-laddered ones, as the pay I received for the nuisance of having to pry a little harder when taking off the supers, and having to clean off that part of them which adhered to the bottoms of the wide frames used in the supers."

It might be interesting to learn *why* these few colonies had no burr-combs on the top-bars. If because the colonies were not so strong and crowded, hence had not built burr-combs, the force of the argument might be weakened—but it is not well to be too inquisitive in a family quarrel!

York's Honey Calendar for 1900 is a 16-page pamphlet especially gotten up to create a demand for honey among should-be consumers. The forepart was written by Dr. C. C. Miller, and is devoted to general information concerning honey. The latter part consists of recipes for use in cooking and as a medicine. It will be found to be a very effective helper in working up a home market for honey. We furnish them, postpaid, at these prices: A sample free; 25 copies for 30 cents; 50 for 50 cents; 100 for 90 cents; 250 for $2.00; 500 for $3.50. For 25 cents extra we will print your name and address on the front page, when ordering 100 or more copies at these prices.

Root's Column

It is the best

ECONOMY

TO ORDER YOUR

BEE-SUPPLIES

of leaders in this line.

You will not be disappointed when getting goods of

—THE—

A. I. Root Co.,

or their dealers, for you will get goods of the finest quality, best workmanship, and good treatment.

Send for our catalog for 1900 which is just ready. It is a real

CYCLOPEDIA
—OF—
INFORMATION

on all that pertains to Bee-Keepers' Supplies.

Next week we will begin a series of illustrated ads. running two months. Better watch for them.

The A. I. Root Company
MEDINA, OHIO.

GENERAL ITEMS

Selling Extracted Honey.

Look on this picture: There is no sense in the idea that honey to be good must be white in color, nor that honey in tall sections is better than in square ones. My honey this year was from white clover, goldenrod, asters and heartsease, all blended together, and many persons prefer this honey to any other. A market can be had in the northwest, or elsewhere, for such honey in case bee-keepers demand it, and are firm in asking the price it is worth. It is my belief that bee-keepers have lost, and are losing money, by not having the grit to ask the price their honey is worth. It is the weak-kneed fellows who lower or adulterate the price on honey for the rest of the fraternity. Thus writes Harry Lathrop, in substance, on page 51, and I happen to know that Harry's statements are not far from the truth.

Now look on this picture: My practice is to put my extracted honey into 2-quart tin-pails, holding 4½ pounds each, net weight, and sell the whole package for 50 cents, which gives me 10 cents per pound for the honey, and covers the cost of the pail. Thus writes a correspondent on page 60, same number of the American Bee Journal.

Now this bee-keeper must be one of the "weak-kneed fellows" Harry refers to, or had in mind. But it may be possible that the price he asks, or gets for his honey, and from the consumer, is every cent it is worth. Or possibly his market for honey may have been glutted. The fact that he got, as he says, "60 pounds from 65 colonies" would somewhat indicate that there must have been a flood of something somewhere.

M. M. BALDRIDGE.

U. S., Jan. 27.

Bees and Fruit—Requeening.

I have been a constant reader of the American Bee Journal for the past 4 years, and feel that I could not get along without it. It is indeed of great value to the bee-keeper, and should be found in the homes of all agriculturists, especially fruit-growers. Since I have been keeping bees I notice that our cherry crop is much larger than before, which, I believe, is caused by the bees fertilizing the imperfect blossoms.

We have 16 colonies of bees in fine condition, which we had requeened last fall with the golden Italian. Two colonies we requeened in August do not prove very satisfactory; both queens have been laying and rearing drones all fall (part drones and part workers.) Will they be all right when spring comes? We got them for tested queens, from a responsible queen-breeder, in Ohio.

We are having a very pleasant winter so far. The coldest weather we have had this winter was Dec. 16, when the mercury reacht 14° above zero. At present the mercury stands at 60° above, and the bright yellow bees are flying in great numbers before the hives. They are gathering some pollen, and are flying about the water, which are indications of brood-rearing.

GEORGE T. SMITH.

Whitman Co., Wash., Jan. 18.

Getting Unfinisht Sections Cleaned.

The following, on getting sections cleaned out by the bees, may perhaps be of value to some of the readers of the American Bee Journal:

"Those having but a limited number of unfinisht sections, and who are surrounded by neighboring bee-keepers, will hardly care to pile them up outdoors or in the cellar for the bees to clean out, as by this course much of the honey will be taken by our neighbors' bees. If the sections are piled up on the hives (in supers) the bees

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4E2t J. S. HARTZELL, Addison, Pa.

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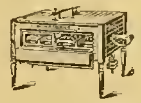

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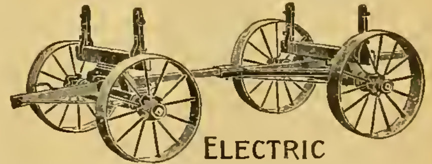

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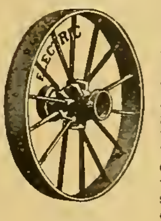

This wagon is composed of the best material thruout—white hickory axles, steel wheels, steel hounds, etc.; guaranteed to carry 4,000 lbs. These Electric Steel Wheels are made to fit any wagon, and make practically a new wagon out of the old one. They can be had in any height desired, and any width of tire up to 8 inches. With an extra set of these wheels a farmer can interchange them with his regular wheels and have a high or low-down wagon at will. Write for catalog of the full "Electric Line" to Electric Wheel Co., Box 16, Quincy, Ill. Mention the Bee Journal.

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will be very slow in removing the honey. All unfinisht sections should have the cappings bruised by a knife; cells containing honey but not capt, should have the thick rim at the mouth of the cell bruised, then fill supers with them. Then go to several colonies having little honey or brood in the brood-chambers, remove the cover, put on an *empty* super, then on top of this put the supers of unfinisht sections, as many as you please on each hive, and replace the cover. Having all cells bruised, and the sections removed several inches from the brood-chamber, the bees are very quick to remove all honey from them. In three or four days remove the supers, and the job is done. Always put on the supers of unfinisht sections *at night*, then by morning the bees will defend themselves against robbers." E. F. ATWATER.

Yankton Co., S. Dak.

Poor Season Last Year.

Bees did poorly last year. I got scarcely any honey to sell. I have 52 colonies in good shape for next season, which I hope may be a fine one. Bees have had two good flights, and all is well so far as I can see. HENRY LOHAUS.

Platte Co., Nebr., Jan. 25.

Bees Outdoors in Winter.

Bees are wintering very nicely so far, where they had the proper attention in going into winter quarters. But should this warm weather continue long there will be reports of heavy loss by starvation. My experience has been that bees consume more food in an extremely warm winter than in a reasonably cold one. In a warm winter, when they can fly every day, they feed the queen, stimulating egg-producing food, with the result that she lays too many eggs; these eggs must be cared for, the larvæ fed, and the "babies" reared, which consumes a large amount of food; and it frequently happens that just as they get the brood-chamber full of young bees there comes one of those cold waves, and—well, good-by, young bees. Spring result, a starved-out colony that under a more severe winter would have pulled thru all right.

In examining my bees I find much more brood than is usual at this time of year. Of course, I am speaking of bees wintered on the summer stands (and that is the way we all winter here).

GEO. W. WILLIAMS.

Polk Co., Mo., Jan. 24.

Moving Bees to Pasturage.

I had 32 colonies, spring count, in 1899, increast to 54, and got 3,150 pounds of extracted honey, and 150 pounds of comb honey. I always divide my bees about swarming-time, and aim to have a queen for all of the swarms, so they won't lose so much time in rearing them.

My honey-house, on the west of the bee-yard, is 16 feet long, and then I have a board-fence 8 feet high running north 30 feet and east 50 feet, so I have a wind-break for the bees. I put the hives 6 feet apart each way. I have no shade for them except artificial, and I use it for shelter in the winter.

Every fall, about Aug. 1, I move the bees to the Illinois bottom for the Spanish-needle and heartsease, which is in abundance in a common season. It is about 12 miles there. I move them on a spring wagon, and can haul 10 on each load. I always take three loads, and leave the rest at home for the buckwheat crop.

I will give you an account of what I did in the fall of 1897. August 10 I moved the bees, and on the 24th we extracted two barrels of honey; on Sept. 4 we extracted two more barrels—that was just 10 days. This was done from 29 colonies; we moved 30, but one had no queen, so it did nothing.

I have a good trade in honey, selling out all I had three weeks ago, so I have no honey now for my customers. I sell my honey mostly in tin pails of three sizes, 4,

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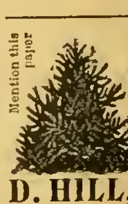
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The demand nowadays is for BEES THAT GET THE HONEY when there is any to get, and Dr. Miller has such bees. You will want to have a queen from his best, we are sure.

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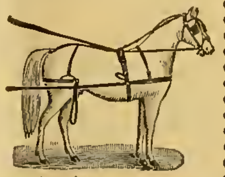

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7 and 14 pounds. It is a good way to handle it.

I have my bees packt for winter in a way I never tried before. I set a row of the hives all around the board fence 6 inches apart, and 6 inches from the fence, and packt clover chaff in between and behind them; and then I set another row of hives right on top of them, and packt them with clover chaff, and covered the whole of them with boards, so they will keep dry.

I use the Simplicity hive, which is as good as any. I almost always buy my queens to increase with, so they will build up my stock with Italians, which are my choice.

The bee-business is like any other business, you can't make anything out of it unless you study hard and work hard, and stay with it. JAMES GROVER.

Brown Co., Ill., Jan. 16.

A Beautiful Winter.

We are having a beautiful winter on the "Great American Desert." Our bees are wintering in good shape. We are hoping for a good harvest this year. Alfalfa is our main honey-plant. J. C. ALLEN.

Finney Co., Kan., Jan. 27.

Wintering of Bees Assured.

Since I wrote before (Dec. 24, 1899) we have had most excellent weather. During this month my bees have had flights on 14 days; and the last day they were out was on the 23rd. Thus their wintering is pretty well assured. Since yesterday cold weather has set in once more, and it is very agreeable to know that my bees are well cared for, and ready to cope with any kind of bad weather that may come.

WM. STOLLEY.

Hall Co., Nebr., Jan. 26.

No Winter Yet, and Bees Fly.

We have had no snow or winter yet. Bees fly nearly every day, and are in fine condition. T. J. GREEN.

Whitman Co., Wash., Jan. 24.

Foul Brood and Moth in Colorado.

We have foul brood in this vicinity, but are fighting hard to down it. I notice Mr. Root speaks of no bee-moth in Colorado. I could have shown him hundreds in old combs where the bees died of foul brood during last June. However, I do not notice that the moth damages good, healthy colonies that are strong.

Few bee-keepers manage their bees in a skillful manner, hence it is difficult to find honey suitable to ship. It retails here at 10 and 12½ cents for No. 1 and 2; extracted sells for 7 to 10 cents. Bees winter with very little protection. They flew nicely to-day, when the sun shown. It freezes every night, but as there is no snow on the ground it is fine when the sun shines.

A. F. FOSTER.

Boulder Co., Colo., Jan. 22.

A General Report—Light Sections.

Bees are wintering well so far, having a good flight every two weeks. The last on Jan. 24.

The prospects are not very favorable for honey from clover next summer, as there has not been enough snow yet to cover the ground at any time, and the present cold and windy weather is very liable to kill out the clover, as happened last winter.

I lost 32 percent of my bees last winter, but nearly made up the loss by new swarms, which are strong with bees and heavy with honey. Bees built up wonderfully in the spring, but came nearly starving in June. Then came swarming in July and August, with a good crop of buckwheat, heartsease, etc., storing an average surplus of 45 pounds, which I sold at 12 to 15 cents a pound.

I think it would be to the interest of every

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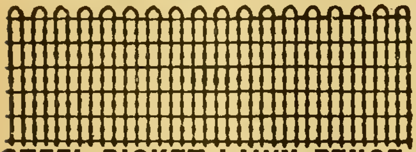

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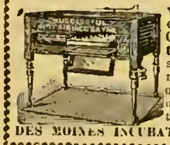

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GEORGE W. YORK & CO., 118 Michigan St., CHICAGO.

bee-keeper producing comb honey to use a section holding about one pound. It would take less sections, separators, section-holders, foundation, etc., for a certain amount of honey. It would make quite an item in good years; and as a penny saved is a penny earned, it will apply as well to the above as in any other transaction. Also, the store-keeper always wants to buy your light weights by the pound, and retail them by the section. Many consumers are thus deceived, as they think they are getting a pound when they are not. It is also one of the causes of low prices. E. J. Babb.
Stephenson Co., Ill., Jan. 29.

Bees Had Fine Fights.

Bees had a fine flight last Friday, and several good ones since, and seem to be in splendid condition. We have had several days of fine spring weather.
Geo. Spitler.
Crawford Co., Pa., Jan. 24.

A Report for 1899.

Bees and honey in this locality the past year were almost a failure. I got a fair yield when other bee-keepers failed. From 40 colonies I had 1,100 pounds, mostly comb honey, which I sold at 15 cents for comb, and 10 cents for the extracted. Last winter was very severe on bees in this locality. A great many bee-keepers lost all their bees. What few bees were left were very weak. The trouble was honey-dew, which the bees gathered for winter stores. I lost 14 colonies—the first I have lost since I began bee-keeping, in 1893. Bees so far are wintering well. They went into winter quarters with plenty of good honey. They had three flights in December, and four flights to date this month.

The American Bee Journal has improved in all departments. Long may it live.
J. W. Payne.
Vermilion Co., Ill., Jan. 23.

The Prospects—Origin of Foul Brood

What does any one know about the Samoan Islands as a honey country? I hear it said that the climate is very fine, and summer all winter; and if I had any assurance of its being a good honey country I would go over and try my hand there awhile.

We feel very much encouraged here for the coming season. The rainfall has been quite good. We have had five or six inches already, and the eucalyptus, walnut, gooseberry, sycamore, buckhorn, redwood, and many other trees, are out in bloom. Horehound, filaree, mustard, and many weeds are also coming into bloom. Bees in good condition are bringing in heavy loads of pollen and storing a little honey. Everything seems promising for a good crop of honey this year.

I don't like the way many bee-keepers

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is the title of a new illustrated pamphlet just issued by the Chicago, Milwaukee & St. Paul Railway, relating more especially to the land along the new line it is now building thru Bon Homme and Charles Mix counties in South Dakota. It will be found very interesting reading. A copy will be mailed free on receipt of 2-cent stamp for postage. Address Geo. H. Heafford, General Passenger Agent, Chicago, Ill.
4A3t

here handle their bees; but few take a bee-paper, or ever get a new queen. I think there are apiaries here that have not had a new queen for 20 years, and they would rather lose their bees than feed them.

I think the germ of foul brood comes from the egg of a parasite or small fly, deposited in the flower and carried by the bees in the pollen, being so small as to admit of being mixt with the food and fed to the larvæ; hatching out quickly after being moistened with the food, it devours the young bee, eats a hole thru the cap of the cell and disappears. Nor do I think it probable that the pollen from early bloom ever contains these eggs. I don't think for one moment that foul brood is contagious thru the use of honey, especially extracted honey. In case of a late flow, bees often store honey on top of pollen already in the cells, which pollen may contain these eggs that may not hatch until disturbed in the spring.

W. A. Johnson.

Los Angeles Co., Calif., Jan. 11.

The Page Woven Wire Fence Co., Adrian, Mich., have for nine years past issued a paper called The Coiled Spring Hustler. The name has been changed to Page Fence Age, but it is the same "Hustler" as ever, devoted to the interests of Page Woven Wire Fence, and full of information concerning it. It will be sent free to any farmer who asks for it. We can assure our readers that it is worth sending for. Ask also for their "Blue Folder," which gives complete descriptions of the different styles of Page Fence. When writing, please mention the American Bee Journal.

The Sure Hatch Incubator Co., of Clay Center. Nebr., received first premiums at the Kansas and the Nebraska State Poultry Shows. They made good hatches at both shows, after sending their machines and eggs by express. This company carries an advertisement in this paper. Write them for free catalog, and mention American Bee Journal when writing.

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GUS. DITTMER, Augusta, Wis.
Beeswax Wanted.

Convention Notices.

Utah.—The Utah State Bee-Keepers' Association will hold its semi-annual convention in the City and County Building, Salt Lake City, Apr. 6, 1900, at 10 o'clock a.m. A full program in the interest of the industry will be presented, and all our bee-keepers can help themselves by aiding the Association, and in order to create a closer bond of union among our bee-keepers. As a further incentive to the success of the bee-industry, it is very desirable to have our bee-keepers from all parts attend the spring convention.

J. B. Fagg, Sec.

California.—The tenth annual convention of the California State Bee-Keepers' Association will be held in the Chamber of Commerce, at Los Angeles, Feb. 21 and 22, 1900. It will be called to order at 1:30 p.m., Feb. 21. At this time the railroads will sell round-trip tickets to Los Angeles and return for one and one-third fare, on account of the Industrial, Mining, and Citrus Exposition, which will be held in Los Angeles. Tickets good for 10 days. Let every bee-keeper bring some hive, tool or experience that he has found valuable, and we will have a good convention.

J. F. McIntyre, Sec.
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Please mention Bee Journal when writing.

Maule's Seed Catalog for 1900.—As the years come and go the efforts of the leading seedsmen to publish catalogs which will keep pace with the improvement in the art of printing are never relaxt. Each succeeding year brings to our table more elaborate and handsome ones. This year the front cover page of "Maule's Seed Catalog for 1900" appeals to all lovers of the beautiful, the carnations being among the handsomest specimens of colored printing we have ever seen. The colored illustrations in the body of the book, of flowers and vegetables, as well as the partial view of the trial grounds of Mr. Maule on the back cover, are in keeping with the beauty of the front cover. Its hundred pages are crowded with illustrations and descriptions, as well as cultural directions of the large variety of farm, garden and flower seeds which Mr. Maule carries. A number of new things are listed, the most prominent of which is "Maule's 1900" Tomato, which promises to be the leader in the tomato field. He sends a packet of this new tomato seed free with every order for 50 cents worth of seeds, and offers $600 in cash for 6 prizes in connection with this tomato, one of $100 for the most appropriate name. He also offers $1,900 in cash for specimens of vegetables and flowers grown from Maule's seeds and for the largest club orders sent in during 1900. The catalog will be mailed free to any of our readers who mention this paper, by writing to the publisher, Wm. Henry Maule, Philadelphia, Pa.

HONEY AND BEESWAX

MARKET QUOTATIONS.

Chicago, Jan. 23.—The trade is taking but little honey; the mild weather may be one cause, but the winter is two-thirds past, and therefore the season is short in which to dispose of what remains unsold; all of our customers speak of a light demand.

Prices remain as formerly quoted, but would be shaded to move round lots.

R. A. Burnett & Co.

Cincinnati, Dec. 27—There is a good demand for all kinds of extracted honey. White clover and basswood sell at 8@8½c; amber and Southern, 6@7c, according to quality and package. Fancy comb honey in no-drip shipping-cases sells at 15@16c; darker grades hard to sell at any price. Beeswax, 26c. C. H. W. Weber, Successor to Chas. F. Muth & Son and A. Muth.

Los Angeles, Jan. 4.—1-pound frames, 12½@15c; 2-pound cans, 2 dozen in case, per dozen, $2.50; 2-pound glass pails, per dozen, $2.50. Extracted, water white, 60-pound tins, per pound, 8½c; light amber, 7½@8c; dark amber, 7½c. Beeswax, 25@26c.

Kansas City, Jan. 19.—We quote No. 1 white comb, 13½@14c; No. 2, 13@13½c; No. 1 amber, 13@14c. Extracted, white, 7½@8c; amber, 7@7½. Beeswax, 20@22c.

The supply and demand for comb honey is light. The demand for extracted since the first of the year not so good. C. C. Clemons & Co.

Buffalo, Jan. 5.—Market bare of fancy white one-pound comb honey, and selling at 15@16c; fair to good, 12@14c; buckwheat, dark, poor, etc., 8@10c. Fancy pure beeswax, 28@30c.

Batterson & Co.

New York, Jan. 10.—Demand is very good for all grades of comb honey. Receipts are somewhat light and not up to former years. We quote:

Fancy white, 15 cents; No. 1, white, 13@14c; amber, 11@12c; and buckwheat, 9@11c., as to quality. Extracted remains firm at following prices: California white, 8½c; light amber, 8c; white clover and basswood, 8c; amber, 7½c. Very little trade for extracted buckwheat as yet. Southern, fancy, 7½c per pound; other grades, as to quality, from 70c to 75c gallon. Beeswax quiet at 26@27c. Hildreth & Segelken.

San Francisco, Jan. 10.—White comb, 11½@12½c; amber, 8@10c. Extracted, white, 7½@8c, light amber, 7@7½c; amber, 5@5½c; Beeswax, 26@27c.

Offerings and demand are both light, and this must continue to be the case until the end of the season. Business is necessarily of a retail character, but at generally firm figures, especially for choice extracted, which is in lighter supply than comb.

Boston, Jan. 12—We quote as follows: Fancy white, 16c; A No. 1, 15c; No. 1, 13@14c; buckwheat will not sell in this city. Extracted, light amber, 7@8c. Demand is very light.

Blake, Scott & Lee.

Albany, Jan. 10.—We quote: Fancy white comb, 15c; No. 1 white, 13@14c; mixt, 11@13c; buckwheat, 10@11c. Extracted, white, 8@9c; mixt, 6½@7c; dark, 6. Beeswax, 26@28c.

MacDougal & Co.
Successors to Chas. McCulloch & Co.

Omaha, Jan. 4.—Prices remain unchanged. Fancy white is still moving slowly at 14@14½c. Extracted, white, 8½c. Now that holiday trade is over and dealers have taken their inventory, they soon will be thinking of replenishing their stock and more lively trade is anticipated in the near future, but no material advance is lookt for during January. Peycke Bros.

Detroit, Jan. 11.—Fancy white, 16@17c; No. 1, white, 14@15c; dark amber, 10@13c. Extracted, white, 8c; dark and amber, 6@7c. Beeswax, 24@25c. M. H. Hunt & Son.

WANTED.—Extracted honey; all kinds; mail sample and price expected delivered at Cincinnati. I pay spot cash on delivery.

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Because in 23 years there have not been any complaints, but thousands of compliments.

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GEORGE W. YORK, Editor.

AMERICAN BEE JOURNAL.

ESTABLISHT IN 1861 OLDEST BEE-PAPER IN AMERICA

DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS.

40th YEAR. CHICAGO, ILL., FEBRUARY 15, 1900. No. 7.

CONTRIBUTED ARTICLES

NO. 2.—COMB HONEY PRODUCTION.

Getting Section Honey from Weak Colonies Can be Done, but Undesirable, and Why.

BY R. C. AIKIN.

THE production of comb honey is a very nice business; but to be successful year by year requires no little knowledge of the business, as well as experience. One may succeed in getting reasonable crops and in fair shape when the season is favorable, but let the season be poor, or the stock in bad condition, and success to even a reasonable degree may not be had. It is the good years—ones with abundant secretion of nectar and unusual crops—that give the amateur and others the bee-fever. They have perhaps one or more colonies that give them a good crop, then they straightway count that to multiply the number of colonies will equally increase the income, forgetting that with a larger apiary there must be some colonies that do not happen to be in prime condition when the others are, and so cut down the general average very much. They also forget that larger crops mean less price, and more effort to sell, etc. I suppose, however, we ought not to expect fever patients to be rational—they usually are flighty.

We will take it for granted that the reader has read my article preceding this, and has carefully studied his location, deciding whether he will produce comb honey, extracted, or both; where and how the product will be marketed, and all the details. Having done so, we will first consider the production of comb honey, and if any reader has determined on extracted honey, he would better read this, too, for it will surely help, tho you never produce a pound of comb honey.

The foundation in producing nice comb honey is to have strong colonies. I say, *have strong colonies* to put up your section honey for you. You *can* take even a very small colony, 3 to 5 Langstroth combs in size, and produce nice section honey. Yes, you may, in a good season, take nice section honey from a one or two frame nucleus—I have done so in years gone by. This is not contrary, however, to my statement in the second sentence of this paragraph in regard to the necessity of strong colonies to produce section honey—that statement is correct as a fundamental proposition.

Will you take section honey from a few bees? To do so the hive must be proportioned to the colony. I have an observatory hive that I used some years ago; it holds only three Langstroth combs when full. It is made with wooden ends and bottom permanent, and wood top and sides removable. Grooves are cut on the inside of the ends from top to bottom, so that when one comb is hung in the center a pane of glass can be slipt down in the grooves either side of the comb. When more than one comb is needed, one glass side is pulled up and set out one groove farther, making a two-comb colony. If still more room is needed, pull out the glass from the other side and set it in the next groove, thus making room for the third comb. Thus the hive can be quickly changed and made a one, two or three frame colony by simply changing the glass from one groove to another. The wood sides are removable to allow observation, but always occupy the same place, the space between the wood and glass being more or less, as there are more or less combs used.

Having a colony that was getting too large for the three-comb hive, and a honey-flow on, I put some sections on top and spread a cloth over, and so had a number of sections filled. The principle is just this: If the colony is not strong you must fit the hive to the bees if you expect surplus comb honey. In this way one may, by having hives that can be easily contracted, squeeze the brood-chamber so that the bees must store above if they get more than the few empty cells in the brood-nest will hold, always *forcing* bees above or outdoors to find room.

While we can thus fit the hive to the size of the colony at the time the honey-flow comes on, and so get section honey from almost any colony, the plan is not altogether practicable. If the apiarist is one who has plenty of spare time to make the proper adjustments at the right time, can guard them to care for swarms, unite those that do not get strong enough for winter, feed those short of stores in the brood-chamber, and many other little things, such a plan will be fairly good. I say only *fairly* good, it cannot be *good*.

Some of the reasons why not good are these: Two or more weak colonies united are not so good after uniting as is one normal colony that has not been united. The normal colony has its stores in better shape (not always the best shape, but better), they have brood, pollen, honey and empty comb in the most nearly proper position and relation to each other. The united colonies must necessarily have the stores, brood and empty comb more mixt up and in disorder. Such colonies seldom winter as well as those that have been allowed to shape things to suit their own instincts.

Again, those little colonies that are not sufficiently strong for winter, if not united, must be fed, and this takes time and expense. I am confident that much disarrangement of the combs and stores damages the wintering prospects. Bees may be manipulated much without detriment, particularly in the spring; simply opening hives and removing one or more combs to look at any part of the colony usually does little or no harm if the combs are put back just as they were, but a general mixing up of combs that contain pollen, brood and empty cells is detrimental, more or less, save a judicial spreading of brood when the colony can stand it.

Having to feed either for stores, to get bees sufficient to winter, or both, or to have to unite for the same purposes, are expensive and unsatisfactory, yet become necessary by the method of taking comb honey from small colonies that have to be squeezed or forced to the supers. More than this, it takes greater apiarian skill to handle such methods to obtain success, both in maintaining the stock in proper condition, and in getting a nice, salable product. Few indeed are the apiarists who do not desire increase of stock, and to those who do not want to risk a decrease in their apiary, and to all but the most skillful I must recommend getting surplus from strong colonies only.

My next article will continue this subject, entering more fully into the details of the work.

Larimer Co., Colo.

Price of Swarms and Queens in Germany—Honey in Switzerland.

BY L. STACHELHAUSEN.

On page 730 (1899), it is said that in Germany the price of honey is very high, but for live bees the bee-keepers would seem to get very unsatisfactory prices, because heather swarms are advertised at 63 cents to $1.00, and laying queens in the fall for 25 cents.

These low prices need an explanation. Generally the prices for swarms are much higher—75 cents to $1.00 per pound; queens $1.00 and more—about the same as in the United States. The bee-keepers in Lueneburg sell bees and queens very cheap only *in the fall*, and this has a proper reason. In this province prevail circumstances concerning the honey-flow which can hardly be found anywhere else. A management is adopted by the bee-keepers which has been taught in the craft for more than 100 years, from generation to generation, and is well fitted to the condition of the honey-resources.

The main honey-flow is late in the fall, buckwheat and heather, and the purpose of the spring and summer management is to get as many field-bees as possible for this honey-flow. The bees generally belong to the landlord, and he hires a man who has learned the craft during at least two years. This man is called an imker (bee-keeper), and 60 to 80 colonies in straw-skeps are given into his hands in the spring, and he has to manage them all the year around. To get his colonies strong he uses stimulative feeding. In April he migrates with the whole apiary to the river-bottoms, where good meadows will give him a honey-flow; or into the rape-fields, all for the purpose to develop his colonies as much as possible. If the weather is bad, or the honey-flow scarce, he feeds again in small quantities.

In May or June his hives are full of bees and brood, and the colonies can not get any stronger; he expects swarms now, and they do swarm, to be sure, every one of them. He catches them with a swarm-catcher similar to Taylor's, but much simpler and cheaper, and has done so for more than 100 years, without knowing anything of Taylor's invention.

But he wants strong swarms. The after-swarms are weak, so he unites so many that they fill at least one-third of his straw-skeps. These swarms build up to strong colonies by-and-by, if well cared for, and they always get good care.

In July he migrates again with 180 or 240 colonies to the buckwheat fields, from there to the heather, and at last home again. In the fall the prime-swarms are inclined to swarm again; he knows how to prevent this.

Now commences the honey crop. At first he selects carefully 60 or 80 colonies he wants to winter again; they must have a young queen and not too much honey, but plenty. All the other colonies are brimstoned, and the honey cut out. His honey is of the cheapest grade, nevertheless he clears a profit of about 2,000 marks a year for the landlord, and small wages for himself.

Very few bee-keepers with movable-frame hives in Germany do better, many not as well, and besides this they are good customers for the bees and queens the imker would kill anyhow.

Now instead of brimstoning he drums them out and sells them for anything, if he gets paid for the drumming, and he is an expert in this. If he can not sell all the colonies, he sells the queens at least.

The mobilist fills a hive with empty combs and honey-combs, hives the swarm in it, and feeds some sugar if necessary. If he winters the new colony all right, he will have increast his apiary with very little expense. This is the explanation why swarms and queens are sold as cheap by the heather bee-keepers *in the fall*; they do not cost him anything, and no queen-rearer can compete with him; but he has nothing to sell except in the fall.

Another correction is necessary. At the Philadelphia convention Prof. H. W. Wiley said that in Switzerland honey is adulterated, and that he didn't see a bee-hive while there. He said further: "If you have a variety of bees that can make honey out of snow, take them to Switzerland; they would find there an inexhaustible supply of the raw material.

It is true, and much is written about it in German bee-papers, that in the hotels of Switzerland glucose and other sweets are served to the foreign travelers as honey of the Alps; but the natives are smart enough not to eat that stuff. In so far I agree with Prof. Wiley, but the above statement seems to me to be one of the extravagant ones, which do "more harm than good." As Prof. Wiley puts it, the reader may think Switzerland is somewhere in the neighborhood of the Lady Franklin Bay. Quite the contrary is true; Switzerland is very suitable for bee-keeping, and this occupation is very advanced there, and is paying better than in some other countries of the continent.

In Switzerland is one of the best bee-papers in the world, the Revue Internationale d'Apiculture, publisht by Ed. Bertrand, and from there our American hives and methods are slowly but surely being propagated over the continent of Europe.

From the southern part of Switzerland the best Italian bees are exported, and in one point at least the bee-keepers of Switzerland are ahead of us—they have all over the country experiment stations in which simultaneously observations and experiments are made according to a well-considered plan.

Bexar Co., Tex.

Winter Passageways in the Brood-Combs.

BY G. M. DOOLITTLE.

A CORRESPONDENT writes me that he thinks much of the loss of bees during winter comes from the chilling of the bees, or the impression of cold on those bees occupying the outside of the cluster, or more properly the outer ranges of comb, when a sudden cold spell comes on with the cluster spread out all over the hive. He then goes on to say:

"Especially is this loss very considerable where comb-passages are deficient, as in such cases the detacht clusters are unable readily to join the main cluster, and are not in sufficient numbers to maintain the requisite degree of heat, hence are lost. Thus, after each cold snap a loss occurs, and when there are a sufficient number of these cold snaps during the winter, the whole colony goes little by little till the remaining number are not equal to the occasion, when all perish. What is your opinion in this matter? Please tell us in the American Bee Journal."

In the above our correspondent brings up a subject which has been discust at length at times during the past, and "winter passageways" thru the combs have been often recommended. The argument brought forth in favor of these passageways was that, on the first cold spell, the cluster of bees was obliged to contract in order to maintain the necessary heat; and in doing so those occupying the outer ranges of comb, being in a sluggish state from the influence of the cold, failed to pass up and around the comb quick enough to keep up with the receding cluster, hence were left away from the warmth of the main cluster to perish. To obviate this loss winter passageways were recommended thru the center of the combs, made by boring or cutting holes thru them, or by having a curled shaving suspended in each frame when the swarm was hived, so that the bees would of themselves leave such passageways, when they were building their combs.

By this means the outer bees had direct communication with the cluster or main body of bees in the center of the hive, so that, even tho partially stiffened with the cold, they could easily recede so as to keep up the main cluster. As the bees would, as a rule, fill up these passageways each summer, it was found to be quite a job to make them each fall, when some one proposed boring a hole in the side of the hive at the proper place, when, with a square stick of suitable size, pointed at the end, which was to be slowly "wormed" (so as not to kill the bees) thru to the opposite side of the hive, and thus make a passage thru all the combs at once, thus making quite a saving of labor. Where such passageways are desired, probably there is no better way of securing them than this last.

However, it was soon found that the bees would remain and die within one-half inch of these holes, as I have seen them many and many a time, and as side holes were quite a damage to the combs, the bees filling them with comb of the drone size of cell the next season, the practice of making such passageways has been generally discontinued, I believe. Where anything of the kind is used, several sticks of suitable length, and ½ inch square, laid across the top of the frames, two inches or so apart above the center of the cluster, to hold up the covering over the bees that much, is now considered preferable to the holes, and is something which is used by many of our practical apiarists who winter their bees outdoor.

But from many careful watchings and experiments I found that bees would die within ½ inch of any of these passageways, and that such death of bees rarely occurs except during the first heavy freeze each fall, and also that these bees die from lack of vitality, or what is commonly called "old age," rather than from the cause assigned. Usually we have cool, cloudy weather from two to four weeks before the first severe cold, so that the old bees do not leave the hive to any extent to die, as they do all thru the summer months, so that the number of dead bees dying from this cause would be considerable, providing some were chilled. But at this time of the year, instead of dying at once, these old bees seem to linger along for a chance to go out of the hive to die, and so gather in little clusters of three, six, ten, twenty, or more, in a place where they remain in a sluggish state till caught by extreme cold, or a chance is offered for a flight.

I find recorded in an old diary how one year, when a fine warm day occurred immediately preceding the first very cold weather, the bees all flew nicely, and at evening I was surprised to find sluggish bees clinging to the hives, fences, board walks, etc., all about the apiary, while a close examination showed them all about on the grass and ground. And this is something I have noticed several times since, and in some instances to a far greater extent than was noticed that year, varying as the bees ceast breeding earlier or later in the season. And when seeing these dead and dormant bees scattered about and clinging to things in this way just after a late flight in the fall or early winter, I have always thought that I had discovered the real cause why bees are found dead in little clusters on the combs after the first cold spell of the season, where no flight has occurred for some time previous.

And to prove the correctness of this I will say that, upon a cold spell coming immediately after such flights, very few if any clusters of dead bees are found, and very straggling ones, with the whole colony clustered compactly for winter, whether there were any passageways or not. Then, again, I have often noticed that these little knots of bees were left to die only with the first contraction of the cluster, as later on no gain of dead bees clustered about in little knots seemed to be made among the combs with each expansion and contraction, even tho our correspondent would lead us to believe that it was a thing kept up after each warm spell.

There is only one way that I know of for *each* to arrive at the truth in these matters, and that is to set apart a few colonies for an experiment, trying them in each way, or in any way that the mind is led to think may prove a good thing. That which succeeds may then be tried on a larger scale, and if on this larger trial it still proves a success, then the whole apiary can be workt that way.

In the case now in question, set apart three or four colonies, making winter passageways thru the combs; then try an equal number with the sticks across the top of the frames, as alluded to above, while another like number is left without any preparation at all. In this way, after a series of winters, the truth of the matter can be found out by a careful comparison of the whole.

Onondaga Co., N. Y.

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Experiences and Foul Brood in Cuba.

BY G. ROCKENBACK.

I AM upon the open veranda writing, wearing a light undershirt, crost or mosquito-bar pattern, with the thermometer registering 85 degrees in the shade. Tropical ferns wave around me, with the smell of pomegranates and bellflower blossoms in the air.

When I left the office of the American Bee Journal last fall, supplied with a good stock of bee-smokers and veils, I took a header direct for Havana, and then by rail to Caibarien, some 236 miles east of Havana. I changed cars three times, and bought three extra passes, because three different railroad companies operate between the two places, and they don't issue any thru tickets. Their charges are only 10 cents a mile, baggage extra, which is a very stiff price for a ride in a stock-car, with hardwood benches, and lighted with candles.

After arriving in Caibarien I stopt one week with my friend, H. Gunz, postmaster of the place, having about 6,000 inhabitants. From there I went 36 miles east by sailboat, to Sta. Cataline, where the apiary of M. J. Carbo is situated, which consists of 75 colonies, all in the dovetailed hives with Hoffman self-spacing frames; also a 10-inch foundation mill, a 4-frame reversible Cowan extractor, Dadant uncapping-can, three uncapping knives, four bee-smokers, 100 5-gallon cans, and a number of hogsheads; also "A B C of Bee-Culture," and other traps too numerous to mention. Mr. Carbo is the owner of a large sugar plantation, with a sugar-mill 20 rods from the apiary. He is also a practical apiarist, but not much acquainted with foul brood, with which his apiary is rotten, every colony being in bad condition. In some of them the bees swarmed out just before I came here; by raising the hive-cover the stench would almost knock a person down.

The first thing I was going to do was to cure that apiary of its disease by the McEvoy process, as the bees were in two yards, one of them containing 16, the other 60 colonies.

So, to begin, I made 100 pounds of foundation, lots of wax being on hand: also 125 hives and frames were boiled, as I had a large sugar-kettle, and all the steam I wanted, also two colored fellows to assist me. I tackled the small yard first, to see how the McEvoy plan would work. I hived the bees on full frames of foundation, and after four days I transferred them to a new set of hives and foundation, just as per the McEvoy treatment. Of course, little did I dream of not curing that yard. Two weeks later I examined them, and to my surprise all of the capt brood was black and rotten; in some of the combs not one bee would hatch. The foul brood was worse than ever. I had just read the "A B C of Bee-Culture," where it says no starving is required to cure it.

Not being satisfied with the McEvoy plan, I hived 20 colonies on foundation, and starved them four days in a dark cellar, and then I transferred them into new hives on new foundation. The result was just as before—one-half of the brood was dead and rotten two weeks after being hived the last time.

I have also tried three other ways with drugs, but with no success.

In the American Bee Journal for 1893 there are no less than 33 articles on foul brood, and not one of them will cure here. I believe M. M. Baldridge, in 1894, said he was going to give a foul brood cure which could be relied upon. As I have only a few copies of the different bee-papers to refer to, probably some new cure has been discovered within the last two years. I have not read any bee-papers since 1897.

A sample copy handed me when I was in the Bee Journal office last fall, contains a very interesting article by Fred Craycraft, read at the Philadelphia convention, which is very inviting for the American bee-keepers to go to Cuba, but it contradicts itself.

I have made 300 miles on horseback, in an unbroken country similar to the Rockies, with veil in pocket and smoker in hand ready for execution on any apiary that I came across. Half of the time I stood in the saddle. I have been as far south as Santus Spiritus; have also followed up the mountains which line the north coast from east to west some 30 miles; have examined about 50 different apiaries, some as large as 75 colonies, all in log gums, which were started last February with a few logs taken from the woods, and I have yet to find an apiary that is not rotten.

South of Yoguajay 15 miles is a native that was in New York State during the war, and he put in one season with a large bee-keeper in New York. He speaks English quite well, and has an apiary of 70 log hives rotten with foul brood. I have no doubt but the whole Island is rotten from end to end.

Would it be safe to import a number of colonies to begin with? I would like to hear from some of our foul-brood authorities on this subject.

I don't believe there is a single individual in the United States to-day who can cure foul brood here by drugs or starvation.

In the Progressive Bee-Keeper for February and December, 1895, "Rosehill Observer" says he came very near going with bag and baggage to Cuba. But don't envy Osborn and Craycraft. In short, let me say to "Observer," take $500, as I did, go to Cuba, and inside of six months if you aren't back, much sadder and wiser, to all appearance, I am a—whatyoumaycallhim.

Cuba, Jan. 21.

Is it the New York Bee-Disease ?

BY ABEL GRESH.

HAVING learned about all I know about bees and honey production from the writings of the contributors of the American Bee Journal giving their experiences, I feel it incumbent on me to contribute an experience that I had out of the usual, or different from any other I ever met with.

In the autumn of 1897, having about 115 colonies of bees, which number, with slight variations, I had had for six or eight years previously, my assistant informed me he noticed brood in one hive that failed to hatch, and was a coffee-brown in color. I decided to be on the safe side of foul brood, so I sulphured the bees at once. In preparing the rest for wintering, my assistant again said he found several that showed signs of foul brood, but being late no further notice was taken of it. As was my custom, I put about 80 colonies into the cellar, where they had wintered well for about six or eight years, and the remainder I packt in large boxes with chaff on the summer stands, and I concluded I had a nice start in foul brood. My assistant had some previous experience with that dread bee-disease, and pronounced every symptom present, excepting ropiness in the dead larvæ and the glue-pot smell were lacking.

In the spring of 1898 bees generally came out alive, but some were quite weak; all were prepared to build up as usual, but many failed in hatching more than one-third to one-half of their brood, and in consequence remained weak, while others built up strong and healthy, and gathered honey freely. The brood that failed to hatch in some cases dried to a brown scale in the bottom of the cell; in others, where it was capt, the capping had a brown, sunken appearance, and usually had a small pin-hole in the center. At times we were convinced it was genuine foul brood, but at other times we still doubted, because, as I said before, genuine ropiness was lacking in the dead brood, as was the stench attributed to genuine foul brood.

In looking over the yard as a whole, I discovered that the disease largely predominated amongst the colonies that I wintered in the cellar, and a suspicion was at once aroused in my mind, that the cellar was responsible for the trouble. I then instructed my assistant in preparing colonies for winter, to double all weak afflicted colonies, see they had plenty of honey, and we would not put any into the cellar in the fall of 1898. I packt about 40 colonies in chaff, as usual—the best and least afflicted—and the balance, about 45, I left on the summer stands, with no protection except that I took off the enameled sheets, and covered the brood-frames with burlap sacking, placing on this a half-story rim, into which I put chaff or sawdust filled cushion, then the lid, and lastly shade-boards on the lid, projecting about 10 inches in the front and the rear.

In this condition they wintered fairly well, few failing to respond last spring, and, when building up, very slight traces of the malady was found here and there, perhaps from a few cells to a few square inches in extent, and I do not expect to find any trace of it next spring, as I have packt the same as last winter.

In 1898 I had about 1,600 pounds of comb honey, and the past year 1,200 pounds.

My cellar is inclined to dampness, and consequent molding. When I had about 80 colonies in it, the thermometer ordinarily registered 45 degrees, seldom fell as low as 40 degrees, and I frequently noticed when the honey season opened the bees would gnaw down some badly-molded combs and build new. I think high temperature enabled the bees to winter all right, and mold caused the larvæ to die in the combs.

My bees, as well as those within a radius of 20 miles or more, gathered considerable honey last fall that has a decidedly bitter taste. I am not sure of its source, but incline to the belief that it comes from the bloom of what is known as "devil's club," which was very largely visited by bees about the time blackberries were ripe. Elk Co., Pa.

"**The Hum of the Bees** in the Apple-Tree Bloom" is the name of the new bee-keeper's song—words by Hon. Eugene Secor and music by Dr. C. C. Miller. This is thought by some to be the best bee-song yet written by Mr. Secor and Dr. Miller. It is, indeed, a "hummer." We can furnish a single copy of it postpaid, for 10 cents, or 3 copies for 25 cents. Or, we will mail a half-dozen copies of it for sending us *one new* yearly subscription to the American Bee Journal at $1.00.

CONVENTION PROCEEDINGS

Report of the Colorado State Convention.

[Continued from page 85.]

THE HIVE QUESTION.

J. E. Lyon—I wouldn't give a snap of the finger for the *kind* of hives. The frames have more to do with it, and the bees more than the frames. It is true, they need shelter. But give me any old box, with movable frames, and I will produce as much honey as with the latest hive. There is no use in taking up the 8 and 10 frame question. But we do want frames every year. I have had to do a lot of work in cutting down frames. To produce honey in quantity we must handle *frames*. We can't handle hives, we must handle frames. I never produced a larger crop than last year. It was all by handling *frames*.

Mr. Martin—I am much like Mr. Lyon. The different lengths of the frames manufactured bother me more than anything else about the hives.

Mr. Tracy—There is a great deal in the frame, also a great deal in the hive. But if you get the dovetailed hive all the time, you get the same all the time.

J. B. Adams—I have dovetailed hives in my apiary that vary ⅜ of an inch in length.

Mr. Bates—I like the Wisconsin hive the best—the frames always fit. I have mostly used the 8-frame Wisconsin, but have used others.

H. Rauchfuss—I have used almost every kind of hive, from the Heddon with a frame less than six inches deep, to those with frames 11 inches deep. I have some Wisconsin hives that I will sell cheap. I don't like the frame-rest. Sometimes every frame needs to be taken out, and the frame-rest projecting in the Wisconsin hive causes the honey in the brace-combs at the ends to scrape against it. Now they have improved the Wisconsin hive so it takes the Hoffman frame. But I don't like the Hoffman frame. My preference is a standing closed-end frame of ⅜-inch stuff all around, the top and bottom-bars ⅞ inch wide, and the end-bars 1½ inches wide. The top-bars are grooved on the underside for fastening foundation with melted wax, and the end-bars have a slight groove on the outside for the wires to rest in, so they will not get cut or dull the knife when the frames are scraped. For an extracting-frame this can't be beaten. All the help I have had always say when they come to the closed-end frames, "Now we *can* extract." The end-bars keep the fingers out of the honey, and the narrow top-bars favor uncapping, and do not cause the combs to break in the extractor. The Hoffman frame is the worst one to extract from. The top-bar projects beyond the thickness of the comb, causing the comb to break in extracting. The new Hoffman is not the frame for extracting. Moreover, a closed-end frame can be inverted, so that the comb may be built solid. The original idea of the wide top-bar was to do away with the honey-board. It works all right the first season. After that the bees will build brace-combs between the top-bars. Some of the top-bars warp. There is no brace-comb trouble with the honey-board.

Ch. Adams—Whenever I get a Wisconsin hive I get rid of it as soon as possible. I have had the same experience exactly in regard to the top-bars and honey-board.

Mr. Brock—The hive question would be easily settled if we could get all bee-keepers to use the same things. The most trouble comes when a bee-keeper buys other fixtures than what he started with.

E. R. Root—It is a pretty difficult matter to make one hive to please every one. We have sold frames with narrower top-bars for extracting, but we put up thick top-bars in extra supers to avoid having two styles of frames in the same hive. I suspect this is one of the questions which locality has something to do with. We shortened the top-bar in the new Hoffman frame to do away with the gluing to the ends of the hive. In regard to Mr. Lyon's remarks, Mr. Coggshall says locality comes first, next the man, and lastly the hive, and I have seen that demonstrated in his yards.

Mr. Tracy—The Danzenbaker cover furnisht with the new dovetailed hive warpt with me.

Mr. Root—We have had some complaints with the Danzenbaker cover in Colorado. Did you follow directions in nailing?

Mr. Tracy—Yes.

Mr. Root—If so, you nailed the wrong way. The directions we sent out were found to be wrong. That is changed now. I am afraid the time will come when a special kind of hive will have to be made for this locality.

H. Rauchfuss—I have always been in favor of a square-edged hive, but have come to the conclusion it is not the thing. For some seasons I have used a large number of supers, with some hives made to correspond, that were rabbeted in a peculiar way, and I find by actual practice on a large scale that this arrangement is superior to the square edge. The sides only, of the supers and hives, are rabbeted. The rabbet is made on the outside of the upper edge of the super sides, and on the inside of the lower edge. Hence, when a super is set on another, or on a hive rabbeted in like manner on the outside, the two rabbets fit together—that is, they fit together on the outside, thus making a close joint, and they would fit together on the inside if the rabbets above and below were cut to the same depth; but they are not, the outside rabbet at the top of the sides of one super being cut ½ inch deep, and the inside rabbet at the bottom of the super above being cut ¾ inch deep, both rabbets extending in width half-way thru the thickness of the board. Hence, when the sides of two supers come together, there is a close joint outside, but inside there is a bee-space of ¼ inch. The ends of the supers are not rabbeted, but the same result is achieved here, too, in a different way, by making the ends only 4¼ inches deep, the sides, of course, being the regulation 4½ inches. A thin strip projecting downwards about ½ inch, nailed along the lower portion of the ends, makes the super tight outside here also. In this way there is virtually a bee-space of ¼ inch all around between the supers, or between a super and a hive, while at the same time all joints are tight. The result is that in actual practice, whenever a super is raised, however much the bees crowd over the edge where the bee-space is, they do not crowd over where the joints are tight, and the super may be slapt straight down again without killing one; furthermore, the supers are never propolized to each other or to the hive, and need no chisel to be pried apart; hence, supers may be inspected, lifted off and set on with the greatest ease. These two things may seem strange, and I do not know how to account for them exactly, but they are so, nevertheless. These supers and hives originally came from a Chicago supply firm which does not now exist. Then I think the square edge is not the thing, because we winter our bees outside, and the principal point is to keep them dry. The old covers were not wide enough; the new covers are better, but the water will run in and moisten the whole top of the hive, and the wind blows the rain and snow clear across under the cover. I think it would be better to have a rabbet outside, so the water could never get in, as in those Chicago hives.

Mr. Martin—Has any one any objection to the length of the Danzenbaker cover? I find it too short.

F. Rauchfuss—I have noticed that of late some covers have been furnisht too short, so that it was necessary to plane the cleats at the ends of the cover, especially when burlap is used. As to the frames, the short Hoffman frames won't fit old hives. There is also a slight difference in hives of different years, as much as ⅛ of an inch.

Mr. Root—Eight or nine years ago complaint was made of burr-combs at the ends of the hives, so we shortened the hive ⅛ inch at each end. In regard to the covers, one of our men once made a mistake of ¼ inch, and those covers came to Colorado. We adopt the plan now of having hives nailed up to go with the hives we send out. If any one wants a long top-bar he can get it.

Mr. Sylvester—As to the covers, it is only necessary to plane off the underpart of the cleat. I should choose the new frame in preference to any of the others. When fixing up hives for winter, I put two or three thicknesses of newspaper over the frames, and water never comes thru, even with unpainted covers. I would like to sell some Wisconsin hives at half price.

Pres. Aikin—I have concluded the best thing is to have a thin inner cover, with any sort of a cover above and a stone on top of that.

Mr. Sylvester—The Wisconsin hive has an inner cover to rest on the frames. It is a great nuisance. Burlap is a nuisance, too—whenever it projects it draws the water.

H. Rauchfuss—The Wisconsin inner cover is a nuisance when put on the wrong way. When put on the frames the cleats should be down, so as to leave a bee-space over the frames.

Mr. Porter—I have had much experience with the old Langstroth-Simplicity hive, with the ends of the top-bars in a notcht stick. That arrangement is a great mistake. For a cover, the most practical for moving is just a plain flat one, one inch thick, as I found in moving half a car of bees recently. The moisture of the bees warpt the thin covers. Plain edges are much the best in tiering up hives and supers inside the house. For wintering, there is no objection to the dovetailed hive. The Winconsin cover winters better. It would pay to make a substitute for wintering.

Pres. Aikin—I favor the square edge with the inner cover. If one does not have his hives in the shade, he is almost obliged to use a shade-board. I have often removed the covers from dovetailed hives and found the wax underneath white with heat—almost at the melting-point—and the bees driven from the supers.

A STANDARD SHIPPING-CASE FOR COLORADO.

The subject, "Shall we have a standard shipping-case for Colorado?" was introduced by Mr. Cornelius, who spoke briefly, saying he favored the double-tier case, and that last season he received some cases with the ends too narrow.

Mr. Porter—The intent of the question was to bring in uniformity of shipping-cases in loading cars. A difference of an eighth of an inch in thickness makes a great deal of difference. Any one who will load a few cars of honey will find this a real nuisance. Then as to the dripping-cleats, many did not know what to do with them—whether to use them inside or outside.

Mr. Root—We have been making the ends lighter to save freight.

F. Rauchfuss—Three-fourths of the bee-keepers threw the dripping-cleats aside, and many mistakes were made. In this country the material of cases in the flat should be weighted down when it is taken out of the crate, until it is nailed up. The double-tier case was adopted as the standard of this Association years ago. As to what other people think of it, Peycke Bros., in a letter last spring, said, "We would also advise to abolish the double-deck case. Thruout this part of the country, and in fact wherever our trade reaches, we find that it is objected to." But at our spring meeting the representative of Peycke Bros. admitted there was not much objection to the double-tier case. The double-tier case is a trade-mark of Colorado honey. It exposes more honey to view than the single-tier. Of course, it is more expensive, and the single-tier case ships better.

A Member—I think we ought to have a full eighth of an inch between the cover and the sections.

F. Rauchfuss—If you don't use the dripping-cleats you have that space anyhow.

Mr. Lyon—I think the sticks are a nuisance. There would be less height in the car if the sticks were done away with.

The secretary then read a letter from S. T. Fish & Co., date Nov. 16, 1899, as follows:

Mr. R. C. Aikin:—We intended giving you a letter on the subject of packages for Colorado honey, but on reflection think it best not to express *all* our views, but will be pleased to answer any inquiries.

Colorado should by all means adopt the single-tier case. We do not know of one advantage in favor of the double-deck, and there are many items against its use. It exposes to view too much honey. By this we mean it requires too much honey to make a proper facing. If the top tier leaks, it damages the bottom tier. It is not as convenient to handle, and not as convenient for freight men in shipping. It is more trouble in packing the honey, as you are compelled to get more facing. One thing that should be imprest upon the bee-keeper is that every man should have a rubber stamp and put his name on his honey-case.

Some cars contained cases in which the sections were interwoven, and the honey was only fit for the extractor. Some honey had moths in, or at least the web, and we can not trace these things, because the bee-keeper's name is not on the cases. It is no benefit to put the residence on, because some dealers are prejudiced against Colorado honey on account of having it granulate on their hands in past seasons, so that it is just as well that the residence be left off.

Another subject we should like your Association to take up, and that is to try to arrange to sell the honey by the pound and not by the case, simply because we can not educate the Eastern trade to buy by the case, as it is not customary, and your asking this is compelling a hardship upon us to try to undo the custom in the East. Some cases weigh net 20 pounds, and we can not sell it when it weighs this net, by the pound, but must sell it by the package.

We much prefer the good-will of your Association, and therefore do not want to make any further comments today, but we are ready at any and all times to answer any inquiries, or answer any discussions.

Your system of grading is not correct, and should be remedied.

We could register further complaints, but it may not be judicious on our part at this time.

Respectfully, S. T. Fish & Co.

Pres. Aikin—Fish & Co. offered to write a paper for this convention on "Packing and Packages," and this is what they sent.

Mr. Root—Fish & Co. started us with the no-drip case. They had seen Hetherington's case, and urged us to adopt it. I have heard wishes exprest that the Colorado people would not use the double-tier case.

Pres. Aikin—I prefer the single-tier; not because there is less to face. I prefer the no-drip case, because sometimes a little honey drips from unsealed cells.

Mr. Porter—The double-tier case is used because our local market universally requires it. It always will be sold before the single-tier. I know of one dealer who sold out every double-tier case before he sold a single one of the others. I have changed sections from the single-tier to the double-tier in order to sell the honey.

Mr. Pease—We shipt out 22 carloads—if the Eastern market prefers the single-tier, why should we not adopt it?

F. Rauchfuss—As to Fish & Co.'s objection that the double-tier exposes to view too much honey, if anybody objects it should be the producer, not the dealer. In regard to selling by the case, we go by our grading rules, which guarantee a certain weight. As to the honey leaking, our Colorado honey does not leak so much. It is true the single-tier is more convenient for shipping. It is easier to tier it up to some height, especially now that we are compelled to put in 30,000 pounds to make a car. If they don't object to putting a producer's name on, why should they object to the address? I received a letter from a bee-keeper in Chicago who is also a honey-dealer, who also wanted a single-tier case used, and the stamp left off, for the very reason he didn't want it recognized as Colorado honey. Then, as to what they say of inferior honey, this season, on account of the scarcity, dealers bought a whole lot of inferior honey produced by farmers; but the honey that came thru our Association will bear comparison with any. If we guarantee a net weight of 22 pounds per case, that gives them a basis to figure on. Honey is quoted by the case in the Denver market. The sections here are almost uniform, all of the same width. As for the wax-moth, that is preposterous. We have no wax-moth in Colorado. As for granulating, here is a section of honey 15 months old, that has been exposed to the cold continuously, that does not show a sign of it. This year's product has not granulated. There might be a season in which it would granulate soon, but as a rule it compares favorably with honey produced in other localities.

Mr. Pease—If a single-tier case is preferred by commission men, why should we not have it?

H. Rauchfuss—One objection is that the cover and the bottom are wide and will shrink. Even double-tier cases sometimes have covers too narrow.

F. Rauchfuss—The single-tier covers and bottoms are usually in two pieces.

Mr. Root—One reason for preferring the single-tier is that these cases can be piled up high without toppling over. I remember seeing a pile of cases in a commission house that had tipt over with disastrous results. That is the main reason. It holds true in the car also.

In shipping carloads, paper on the top to keep out the dust is a good thing. Capt. Hetherington covers the whole carload.

F. Rauchfuss—We have done that three years, and for two years used a canvas over the whole, and the honey arrived in good shape.

Mr. Root—Personally, I prefer the Colorado honey. I keep a square can of it for use in my own home. I advise you to put labels all over your honey, and have it known as Colorado honey.

Mr. Brock—I prefer to have it labeled as Colorado honey, on account of the preference for it in the East.

Pres. Aikin—A house that handles a large amount of honey explicitly wanted me not to label mine. I consider that rascality.

H. Rauchfuss—They don't want the consumer or dealer to find out where the honey comes from. That is the main objection.

Mr. Lyon—There is more truth in that. Some of my honey found its way to Boston, and consequently a Boston man wrote to me direct.

Mr. Jones—I came from the far East, from Canada, and have been much interested in this convention. In Canada we use only the single-tier case, but produce nearly all extracted honey, as it is so cold. The honey here far excels ours for certain purposes. It takes very little white clover honey to satisfy one, but he can eat two or three times as much alfalfa honey.

Ch. Adams—One reason why objection is made to stamping the cases is that the buyers are afraid their customers will get used to Colorado honey, and won't get Eastern honey another year.

[Continued next week.]

QUESTIONS AND ANSWERS
Dr C.C. MILLER

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—Editor.]

Giving Indoor Bees a Flight.

Would it be well to give bees a flight on a warm day in the winter, by taking them out of the root-house, if handy? Would it do them any harm if they appeared to smell all right, but a little uneasy? Wisconsin.

Answer.—If "they appear to smell all right but a little uneasy," better let them alone till time to take them out for good. When bees are wintered outdoors, a warm day and a flight is a fine thing for them, but it doesn't seem to work just the same if they are in a cave or a cellar. Somehow they don't settle down quietly when returned.

Building up a Nucleus.

I have the queen received last fall in a small hive, that I made, about 10 inches to the edge inside. I could accommodate her in no other way, as it was too late and cold to introduce her, but I got a few bees and put in with her, and she commenced to lay. She laid about 100 eggs, only half of which hatcht, and then stopt. There are only about 100 bees left now, as they have died off. I want to know some way to start her laying, as I think if she does not commence pretty soon they will all die out. I keep them in the kitchen, closing the entrance with a piece of wire-netting. She is a pure Italian, so I don't want to lose her. I carry them out every warm day. New York.

Answer.—Don't think of building up a colony from eggs laid by a queen with only a hundred workers. Remove the queen from one of your colonies and introduce the Italian queen, or else gradually add bees and brood to your little nucleus. You can take from one of your colonies a frame or two of bees (with brood if they have it), being sure not to take the queen, imprison these for a day or two, and then they can be given to your little nucleus.

Bee-Candy, Feeding, Etc.

1. I am located in central Ohio with my bees on the west bank of a pond of spring water, about 20 feet square, with a little hill and orchard on the west, the hives facing the southeast. We have white clover, goldenrod and linden blossoms in abundance, besides black and red raspberry, sweet clover, and a great many other wild flowers. Why is this not a good location, with the proper treatment and care?

2. I have the Falcon chaff hive. Is it as good as any other hive on the market, for out-door wintering? Should the chaff chambers be filled with chaff, or left as a dead-air space? I have two colonies in these hives, which were the increase of last year.

3. I bought a tested queen and introduced her in one of the hives, and I think their stores are rather short, and I would like to feed them. I have Hill's device and chaff cushion over the frames. Can I make bee-candy and feed them on the summer stand, or will I have to put them in the cellar?

4. Can I feed them while the weather is cold, or would I best wait until it is warm enough for them to fly?

5. If you have any special way of making bee-candy, please give it.

6. Does a cider-mill damage bees in any way?

7. What text-book would you recommend as the best—the A B C of Bee-Culture, or Langstroth on the Honey-Bee, or some other one? SUBSCRIBER.

ANSWER.—1. From your description it would seem that you have a fine place for bees. If your bees are placed very close to the pond, it would be well to have them face away from it, for some bees are likely to drop in the water if the water is directly in front of the hives.

2. There is a difference of opinion as to whether chaff hives are best, but you cannot be far out of the way.

3. They can be fed where they are.

4. Unless you think there is danger of starvation, better wait for a warm day. If you think best to feed without waiting for a day warm enough for flight, see that the bees are stirred up enough to reach the cake of candy, and then cover up warm.

5. The common way of making hard sugar candy is good, but it is considered a little better to make the Scholz or Good candy. Heat good honey, but don't boil it. Stir in all the pulverized sugar it will take, then take it out of the dish and knead it with the hands like dough, adding what sugar it will take to make a thick dough. Make a cake about an inch thick and lay over the frames.

6. Yes, unless the mill is enclosed, many bees are drowned at times when there is a scarcity of pasturage, and the cider is bad for winter stores.

7. The books you name are both good; so is Prof. Cook's Bee-Keepers' Guide.

Moving Bees or Selling and then Buying Again.

I wish to move 24 colonies of bees about 53 miles by railroad, in a freight-car, and 6 miles on the wagon to the car, but the car has to be switcht from one train to another. Could I try this moving, or would you advise me to sell the bees here for a low price, and start in the next place anew? NEBRASKA.

ANSWER.—If the margin between the price you would get and what you would have to give is not too great, better sell and buy again. If you have had a little experience in moving bees and can be with them personally, better move them than pay too much on the exchange.

When to Begin Spring Stimulative Feeding.

I would like to know how long before a probable honey-flow one should practice stimulative feeding so as to have the largest number of workers when the flow comes. Our cherry, plum and prune trees generally bloom about the middle of March, then, too, alfillaree and some other plants are in bloom at that time.

My bees have an abundant supply of honey, and yesterday (Jan. 21) there was a cluster on the outside of one of the hives. Every warm day the air is full of bees. CALIFORNIA.

ANSWER.—A worker will begin storing about 37 days after the egg is laid. Beginning a little in advance of that would make the feeding begin about 6 weeks before the expected harvest.

Inside Coating for a Honey-Tank.

I made two honey-tanks of wood and painted them on the outside, but I would like to know what would be good and cheap for the inside. Perhaps you can tell me the name of the stuff alcohol-barrels are varnisht with. WASHINGTON.

ANSWER.—I do not know what varnish is used in alcohol-barrels, and did not suppose any was used. Paraffin is used by some for the inside of honey-barrels. Whether it could be easily and economically applied to tanks is a question. It is poured hot into the barrel, the barrel rapidly whirled so as to make the paraffin touch all parts and then quickly poured out. Possibly if the tank was in a hot place, or in the hot sun, the hot paraffin might be applied so the coating would not be unnecessarily heavy.

Transferring—Grape-Vine Shade—Ventilating Hives—Winter Stores.

1. I have 30 colonies of bees in square hives which I am going to transfer to Langstroth hives, into frames which are longer and a little shallower. Please tell briefly when and how best to transfer.

2. Tell how to train grape-vines for shade.

3. Why not ventilate hives by a register in the cover?

4. Will a colony, for which 25 pounds of honey would be ample to carry it thru the winter, consume any more if it had say 50 pounds given to it in the fall? CALIFORNIA.

ANSWERS.—1. Follow the instructions of your bee-book, the only special point in your case being that the combs are to be transferred from one kind of frames to another of different size. When the first considerable flow of honey comes, so the bees are busy for a few days, cut the comb out of the old frame and then cut just enough from the top or bottom to make a comfortable fit in the new frame. That will fill the new frame, all but a vacancy at one end, and it depends upon the size of the old frame as to how this vacancy shall be filled. If the piece cut away from the old comb is large enough, it can be used for that purpose, or an entire old comb can be cut up into pieces to fill some of these vacancies.

2. The most suitable training is on an overhead trellis, so the vines will form a sort of roof over the hives.

3. That has been practiced to some extent, formerly more than at present. One trouble is that the bees cover with glue the wire-cloth used to close the hole.

4. It would not.

Sweet Clover in Pennsylvania.

Will sweet clover blossom the first year? Do you think it would do well in Pennsylvania? SUBSCRIBER.

ANSWER.—Sweet clover does well in Pennsylvania, growing the first year without blossoming, blossoming the second year, and in winter dying down root and branch.

Effect of Cold on Foul-Broody Hives, Etc.

During the fall of 1898 many of my bees died, leaving considerable honey in the hives. Since then the hives and frames have been empty, standing in a room almost as cold as outdoors. Now, if these bees died of foul brood, will it be safe to use these hives and frames as they are, or should they be put thru the usual process to avoid the return of the disease? ILLINOIS.

ANSWER.—No amount of freezing would make them safe, if there's foul brood in the case. Don't trust them if you're at all suspicious.

Bees Getting Thru the Alley Trap.

Will queens get thru the Alley queen and drone trap when bees are swarming? What would be the effect on 10 strong colonies, of putting the queen-traps on about time for swarming to begin, and leaving them entirely alone with plenty of room for stores for 3 weeks? I am inclined to the belief that a large part of the queens will finally get out, and this one point is of the greatest importance in the scheme I have under consideration. WISCONSIN.

ANSWER.—Queens are not supposed to get thru Alley queen-traps, and under ordinary circumstances do not. Answering what I suppose to be the heart of your question, I advise you not to try the experiment you propose on more than two or three colonies. One year I tried much the same thing on a number of colonies. When swarming began, each colony would swarm about every day. A number of swarms would settle together, then a clump as big as your body would all go to one hive, leaving the others too weak for work. Here and there a queen would get out, either thru a trap that was perfect or one that was faulty or thru some crevice, and among such queens there would be virgins, and one of those immense clusters would majestically sail out of sight. As the memory of those scenes comes up vividly before me, I feel like changing my advice and suggesting that a single colony will be enough for the experiment.

Management for Extracting with Little Attention.

When spring opens I will have about 20 colonies of bees in 10-frame hives. Circumstances are such that I cannot be with them oftener than one day a week, or one day in ten. I do not wish to dispose of my bees, and surplus extracted honey with as little increase as possible is my aim. I will give you my plan for handling them, and wish you to tell me where I am wrong:

The great-swarming fever here is during the alfalfa bloom, from May 20 to June 15, while our greatest surplus is in the fall. I thought of using two stories, the upper one to be filled with full sheets of comb foundation, and when I notice the colonies building up good and strong below (just before the swarming-fever comes,) remove 3 or 4 frames of brood from below and place them in the upper story, and place the full frames of foundation in their place.

I thought that by going thru the hives once a week and treating them thus, the queen would not be crowded for room, and if the hives were well shaded and with wide entrances there ought to be but few swarms, and a nice lot of alfalfa surplus honey to extract after the harvest.

I have queen-excluding zincs. Do you think it would be best to use them, or would it be better to give the queen the freedom of the 20 frames?

If you have a plan whereby I could get surplus with little increase, and only one day a week to look after bees, that you think beats my plan, please give it. KANSAS.

ANSWER.—If you take only three or four frames, there would be swarming in some cases, most likely. Put the story of comb foundation below, either with one frame of brood or with nothing but foundation, and put the queen below with an excluder between. If this is done just *before* any notion of swarming is entertained, and if no crowding for room is allowed above, your chances will be a good deal better. With 3 stories and abundant entrance to *each* story, there is scarcely a chance for swarming. To avoid swarming in this case, it is safer to have no excluder at all; but an excluder over the second story would hardly make any difference, and they might stand one over the first story.

AMERICAN BEE JOURNAL.
ESTABLISHT IN 1861 OLDEST BEE-PAPER IN AMERICA
DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS

PUBLISHT WEEKLY BY
GEORGE W. YORK & COMPANY,
118 Michigan Street, Chicago, Ill.

[Entered at the Post-Office at Chicago as Second-Class Mail-Matter.]

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IMPORTANT NOTICES:

The Subscription Price of this journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "Dec00" on your label shows that it is paid to the end of December, 1900.

Subscription Receipts.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows you that the money has been received and duly credited.

Advertising Rates will be given upon application.

VOL. 40. FEBRUARY 15, 1900. NO. 7.

EDITORIAL COMMENTS

NOTE—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

The National Bee-Keepers' Association is the new name of the society resulting from the amalgamation of the two organizations, viz.: the United States Bee-Keepers' Association and the National Bee-Keepers' Union. We have received notices from the general manager of each former society—Messrs. Eugene Secor and Thomas G. Newman—informing us of the result of the balloting, which expired Feb. 1st, and the vote of each organization was practically unanimous in favor of amalgamation.

We wish to take this occasion to congratulate the whole membership, and all the bee-keepers in the land, upon the happy outcome of the last effort to unite the two national bee-keepers' organizations into one strong body. Now let all "bend to the oars," and roll up the membership to a thousand strong, by the time of the annual meeting here in Chicago next August 28, 29 and 30.

In the number following this we will have more to say regarding the result of the recent balloting on amalgamation, etc.

Oldest Honey-Comb in the World.—The British Bee Journal recently copied the following account of a "find" of what is supposed to be the oldest honey-comb on earth:

> There is in the possession of Mr. W. Drake, of Broad street, Cambridge, a curiosity of great antiquity in the shape of a perfect honey-comb, in the center of what was once an oak-tree, which, according to naturalists who have viewed it, is hundreds of years old; in fact, it is impossible to say what age the comb and tree may not be. The tree was raised on land in the occupation of Mr. Gale Cornell, of Brick-kiln Farm, Bottisham Lode. It had been known to be imbedded in the fen land for a long period, and when six feet of peat had been taken off the surface, it was decided that the tree, which is of the species known as bog-oak, should be raised. It was found to be no less than 100 feet long, and the men were in the act of splitting the tree into logs, when, in the center of it, they came upon a honey-comb, which, with the oak, had been imbedded in the peat. The comb was in a perfect state of preservation, and dotted about it and lying at the base of the aperture were bees.

The Wisconsin Convention, which met last week, was one of the best ever held by the State organization of bee-keepers. We were permitted to be there, and had a splendid time in the land of the fur overcoat and basswood honey. Next week we hope to have more to say about it.

The officers elected for the ensuing year are: President, N. E. France; vice-president, Jacob Huffman; secretary, Ada L. Pickard; and treasurer, Harry Lathrop.

"Phonetic Spelling" is the caption of an editorial in the Bee-Keepers' Review, in which Editor Hutchinson, after spending a page or so upon the difficulties of the case, ends with the following despairing paragraph:

> "I sorrowfully admit that our spelling is something fearful to contemplate, and herculean to accomplish, and it will remain such so long as our alphabetical characters are so sadly lacking in numbers. This being true, it is better that we continue to spell as other folks do, rather than waste our energies in attempting to make changes which, even if accomplisht, would bring us no nearer the goal—phonetic spelling."

Which seems to say, "The case is so desperately bad that we must just stand it with no effort to make it any better." Apparently Mr. Hutchinson has in mind the few reforms introduced in the columns of this journal and some others, from what he says; and he should understand that in these reforms the only thing attempted is to make a little improvement in a limited number of words, and not an entire system of phonetic spelling. The worst feature in the case is that so many, while admitting with Mr. Hutchinson "that our spelling is something fearful to contemplate," will at the same time insist that it must in no wise be marred by any change. It is awful, but it is venerable, and it would be sacrilege to rid it of any of its horridness. Possibly Mr. Hutchinson would join hands with those who say, "If you will give us a genuine phonetic system, I am with you." But such persons ought to know that men have worn out their lives trying to have accepted a truly phonetic system, have printed books and journals phonetically, but the public would none of it. The public will stand isolated and gradual changes much more readily, as may be seen by some of the changes in the Review as compared with the printed language a century ago, and admitting that every change makes a shock, as Mr. Hutchinson suggests, the more rapidly these shocks come the sooner will they be ready to accept what he seems to consider a desired goal.

Mr. Hutchinson emphasizes the fact that very few of our words are spelled phonetically, indeed, putting rather too much emphasis upon it, for he says that in a hundred consecutive words in the Review he found only *two* spelled phonetically, while of the first five words in the column in which this statement is made, five of them may be said to be spelled phonetically—"clip and fix over as." That is on the supposition that by "phonetically" we mean that each letter has its one sound, and each sound its one letter. Possibly Mr. Hutchinson has some other idea of what phonetic spelling is, for in a list of words that he says he looks upon as spelled phonetically occurs "pi," and if that is the word he uses when some one has spilled a lot of type, then it is hardly phonetically spelled, for there are only two letters to express its three sounds.

Just how Mr. Hutchinson can believe that the changes adopted in this journal, "even if accomplisht, would bring us no nearer the goal—phonetic spelling," it is somewhat difficult to understand. Much the same thought is exprest in another place, where he says, "It is true that the newly proposed changes shorten up the words, but they don't spell them phonetically. They simply compel us to unlearn one unphonetic way of spelling a word and learn another unphonetic method." Will Mr. Hutchinson point out a single word in which the spelling has been changed in this journal that was not a nearer approach to phonetic spelling? Will he point to a number of words in which the part changed was not phonetically spelled? On the contrary, it would not be difficult to make out quite a list of words that are changed from unphonetic to purely phonetic spelling, as *past* for passed, *mist* for missed, *rapt* for rapped, *scoft* for scoffed, *snuft* for snuffed, *stopt* for stopped, etc.

Mr. Hutchinson says: "If by making occasional changes, as proposed by the promoters of the so-called phonetic system, we could gradually change the spelling of words until they were all spelled really and truly phonetically, I should hold up both hands in favor of the plan; but with our limited number of letters this is simply an impossibility."

Now, Mr. Hutchinson, if you and others like you will stop trying to discourage, and give us the aid of your influence, the very thing that you would hold up both hands for can easily be accomplisht. First, get all the silent letters thrown out, and come as near to phonetic spelling as can be done with our present number of characters, and that being once done, it will be a short job to import a sufficient number of additional characters to make the spelling phonetic. But *please* don't sullenly fall back on the breeching and say, "It's no use." Stop hindering, and delight us with your help.

Alfalfa and Bees.—In a very interesting paper read before the Kansas State Board of Agriculture, Prof. S. J. Hunter gave an account of a series of very thoro experiments and observations made tenting on the field. Referring to the fertilization of alfalfa, he says:

> The alfalfa blossom is so constructed that it is impossible for it to fertilize itself, that is, the pollen can not fall upon the point of fertilization, but must be carried to that point by some agency. From the shape and size of the alfalfa blossom, it is not probable that cross-fertilization could be safely accomplisht by means of currents of air.

So insects must do the work, bees being the chief operators, a bee while sipping its wee portion of nectar depositing a few grains of pollen brought from another flower. He says:

> A hundred seed-pods were gathered from a field 25 miles away from any known colony of bees, and another hundred pods from a field less than one-half mile from a large apiary. The pods of these two groups were counted, and it was found that the pods taken near-by the bees averaged two-thirds greater number of seed, and showed seed larger, plumper, and more uniform in size. And while the bees were conducting this valuable seed-making work, they were likewise gathering a quality of honey which, submitted to all known tests, has proven itself the equal, if not the superior, of any other well-known variety of honey.
>
> It has been my observation further that alfalfa will yield the greatest amount of honey under circumstances which tend to give the plant the most vigorous growth. If the plant is upon upland, dry weather will affect the secretion of nectar before it will in the valley, such as the Arkansas, where the roots of the plants extend to the water. During a dry period bees will fly over fields in bloom to a field which is irrigated, and is beginning to bloom.
>
> The greatest activity in apiculture in this State is to be found in the alfalfa regions. In the alfalfa-growing portions of the State the average yield per colony in 1898 exceeded 60 pounds, while in portions of the State where alfalfa was not a prominent factor in the honey-production, the bees did well to procure a livelihood for themselves without furnishing a surplus for their masters. Some colonies situated in the alfalfa region were able to yield that season a surplus of 200 pounds of comb honey.
>
> The conclusions of the three years' study of the alfalfa regions of this State, then, briefly stated, are, that the highest returns from the alfalfa meadow are to be secured by an early spring cultivation of roots with the disk harrow, and a summer visitation of the blossoms by the honey-bee.

The Weekly Budget

REV. M. MAHIN, D. D., for nearly 30 years a reader of the American Bee Journal, is still interested in bee-keeping, tho he has preacht 107 times since the last session of his conference—the North Indiana—last April. He has been doing the most of the work of a presiding elder who is an invalid.

MR. F. G. HERMAN, of Bergen Co., N. J., has lately had the picture of his nice apiary printed in his local newspaper, using the same engraving and sketch as we gave on the first page of the Bee Journal for Oct. 5, 1899. Mr. Herman's apiary is in an ideal spot, and its appearance in the newspaper referred to will doubtless help the sales of his honey. Others might follow this example and be the gainers thereby.

MR. L. A. HAMMOND, of Washington Co., Md., wrote us Feb. 2 about an effort being put forth in their State legislature, looking toward the enactment of a law against glucose adulteration. Hon. Chas. G. Briggs, who introduced the Bill into the State Assembly, reported to Mr. Hammond that the committee to which it was referred, reported unfavorably upon it, taking the "position that the adulteration of honey with glucose was not necessarily injurious, and said this should not make it a crime." Beautiful argument that, isn't it? If that is a fair sample of the great ability of Maryland legislators, it is high time that some honorable members are elected to make their laws. As adulterating milk with water would not necessarily be injurious, we presume that wonderful committee would say it would be all right!

We want to say that Mr. Briggs did all he could to have the Bill enacted, and regretted very much the unfavorable action of the committee.

What is first needed is a strong National law against food adulteration, and then uniform laws by all the States along the same line. That is a goal worth working for.

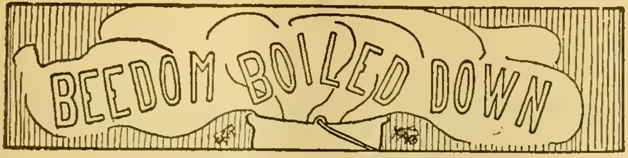
MRS. R. C. AIKIN, of Larimer Co., Colo., in Gleanings in Bee-Culture, referring to the spelling reform, says:

> "Tho it will be like parting from an old and esteemed friend for me to adopt any other method of spelling phthisic, beaux, etc., yet I believe it will save much wear and tear on the coming generation to leave out some of the superfluous letters. By the way, I should like to ask if Dr. Miller, Mr. A. I. Root, Mr. York, or any of the other brethren, have ever eaten any ghoughphtheighteeaux. If not, I should like to have the pleasure of cooking some for them if they will make us a visit."

Thinking of phthisic and a few other words, one can easily puzzle out that "potatoes" may be the name of the article of diet referred to by Mrs. Aikin, and the spelling is legitimately copied from other words, all but the gh at the beginning; surely gh never has the sound of p in any English word! Hold hard; what about gh in hiccough (pronounced hic-up)? Let us be very careful that no ruthless hand be laid upon our beautiful and symmetrical spelling!

But we have no doubt that if Mrs. Aikin has good queoughhugheaei to go with her potatoes, etc., almost any bee-keeper would enjoy a meal at her table.

SEE ad. of Golden's Combination Hive in this issue.



Separators and Fences.—The idea that sections are better filled without separators than with them is a mere notion, says F. L. Thompson, in the Progressive Bee-Keeper. He quotes Heddon and Doolittle as agreeing with him in this. If entirely free communication is no better than separators, how can fences be better than separators? A number of times Mr. Thompson tried separators in half of a super with no separators in the other half of the same super, and the result was always the same—no difference to be seen.

Introducing Just-Hatcht Queens.—A Stray Straw in Gleanings in Bee-Culture says:

"W. H. Pridgen succeeds in giving a just-hatcht queen on the same day on which the old queen was removed. Friend Pridgen, if you take a queen just hatcht—one that has not been held in her cell—and put her in a hive where there is a laying queen, I think you will find that she is *always* kindly received without the removal of the old queen. The trouble comes when she attains a little age, perhaps a day or so old, when she begins to assert herself as a queen, at which time the two will no longer be tolerated under the same roof." [Correct, according to my experience.—Ed.]

Why One is Disappointed in Purchasing Queens.—J. F. McIntyre says in Gleanings in Bee-Culture that he has bought queens from every breeder in this country who claims to have anything superior, and has generally been disappointed. As reasons for this disappointment, he gives the following: 1. The claims may be exaggerated. 2. The young queens are not as well bred as the mother, not reared under as good conditions. 3. The young queens may not be as well mated as the mother. 4. Queens are injured by long confinement in the mails, especially when shipt in full laying.

Candy for Shipping-Cages.—W. S. Pender writes in Gleanings in Bee-Culture that one of two queens sent from Medina to Australia came thru all right, and says:

"The cages were in splendid condition on arrival. They were very clean, free from any stains, and no loose grains of sugar. About two-thirds of the candy was consumed in each cage, and a part of the honey. You must have some secret process to prepare candy of coarse sugar, and yet be so soluble that the bees do not tear it out."

To this the editor replies: "We have no secret process of candy-making. What we use is nothing more nor less than the Good (or Scholz) candy. We are careful to get pure cane sugar, powdered—not sugar and starch, in a combination known as confectioners'. This is what kills bees, but is just the thing for frosting on cakes. There is another important requisite—and that is, the art or knack of mixing the honey and the sugar—just as there is a knack in making bread."

Superior Breeding-Queens.—The tide that has set in for bees of good performance rather than of good looks seems to suffer no diminution. J. F. McIntyre reports another fine queen in Gleanings in Bee-Culture. This is one of the cases in which it makes a difference how many colonies of bees a man keeps. If he keeps only two colonies, and one of them does twice as well as the other, it may not be a matter of much significance. But if, as in this case, he keeps 600 colonies, and a single colony makes a record away beyond the average, it is likely to be a matter of much significance. Mr. McIntyre says:

"Seven years ago I bought a queen from a man named Wallace. I reared about 20 queens from this one to test the stock. The next season was a dry one, and most bees had to be fed to keep them alive; but several colonies out of the 20 filled their supers with honey. Next season, 1895, I bred from the best of these; and in 1896, which was another dry year, this strain again filled their supers when others were starving. I have had many colonies of this strain which I considered ideal bees, and think that they have been improved by breeding from the very best each year. The present year was a very dry one, but I have one colony of this strain that filled 2½ 10-frame Langstroth supers; and I wrote in my record-book, after the number of this hive, that such bees would make a man rich. They are beautiful, pure Italians, light 3-banded, queen large and yellow, and very prolific. I have reared about 200 young queens from her, and they are all like their mother. Her bees are gentle. She was one year old last July, and has never swarmed; and this strain does not swarm half as much as any other strain in my apiary. It is rare for me to become enthusiastic over a queen; but when a colony shows a markt superiority over 600 others in the same apiary, it is a rare thing."

Winter Temperature of the Cluster.—In the Bee-Keepers' Review, Harry S. Howe gives a very interesting table made by H. C. McLallen, while in Cornell University. Five colonies were wintered outdoors, and two in cellar. In each hive a thermometer bulb was in the cluster, and in part of the outdoor hives a thermometer in the hive was out of the cluster also. Readings were taken twice daily, and in the table the average during a certain number of days is given. It will be noticed that the temperature in the cluster was higher in the outdoor colonies. But one will be puzzled to find any fixt rule as to variations. Sometimes the heat of the cluster went with that outside the hive, and sometimes it went in the opposite direction. The table is as follows:

	Jan. 4 to Jan. 23	Jan. 24 to Feb. 7	Feb. 8 to Feb. 14	Feb. 15 to Feb. 19	Feb. 20 to Mar. 4	Mar. 5 to Mar. 20	Mar. 21 to Apr. 10
Average temperature in the open air	33	19	40	24	31	48	43
Temperature in outdoor hives but not in cluster	45	41	51	42	45	64	64
Temperature of cluster in outdoor hive No. 1	71	74	75	72	72	81	83
Temperature of cluster in outdoor hive No. 2	66	65	68	64	65	76	77
Temperature of cluster in outdoor hive No. 3	68	68	71	63	67	80	86
Temperature of cluster in outdoor hive No. 4	73	78	79	74	74	80	80
Temperature of cluster in outdoor hive No. 5	71	75	80	79	77	83	84
Temperature of cellar	46	41	49	43	46	52	52
Temperature of cluster in cellar hive No. 6	65	68	71	65	70	75	75
Temperature of cluster in cellar hive No. 7	62	55	59	54	56	62	62

Refining Beeswax may be carried on to a considerable extent by simply allowing as large a body as possible to cool very slowly, a body of water being added if there is not enough wax, and when the whole is cooled the lower part of the cake can be scraped off and thrown away. There is, however, considerable wax left in this refuse, and those who handle wax on a large scale cleanse it with acid. Altho every one may not care to use this method, one may still be interested to know how it is done, and the following full description is given in Gleanings in Bee-Culture:

"We have no secret process of refining, for our wax-room is open to inspection to any bee-keeper. We simply have a large wooden tank capable of holding about 10 barrels. Into this is poured about a barrel and a half of water, acidulated with about 2 percent of raw commercial sulphuric acid. The hogshead—for that in reality is what it is—is then filled with commercial wax of all shades and colors, and the whole is then treated to a jet of steam. After it is thoroly melted the pipe is withdrawn, the tank is covered, and allowed to stand over night. The next morning the wax is ready to draw off thru faucets located at different hights on the tanks. During the night the acid and water, by reason of their greater specific gravity, settle down out of the wax, leaving it on top; during the same time the dirt now free from the wax settles into the water. The wax is then drawn off into deep cans, and usually has a bright yellow color, so totally unlike the product that went into the hogshead that one could hardly realize the two are one and the same.

"Of course, it is impracticable for the average bee-keeper to use so large a hogshead; but he can use practically the same methods with an ordinary barrel, reducing the quantity of acid and water, but, of course, keeping the relative amount of acid the same.

"The quantity of acid in any case will depend largely on the color of the wax before it goes into the refining vat. If the whole batch is almost black, then we would use about 5 percent of acid to water. If some of it is black, some yellow, some brown, then we would use about the percent first named."

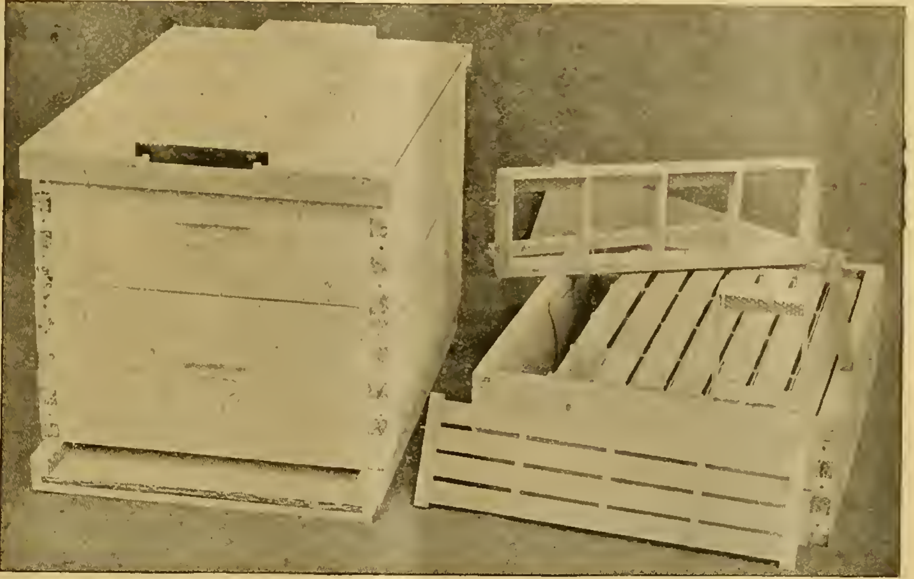
◆

The Premiums offered on page 112 are well worth working for. Look at them.

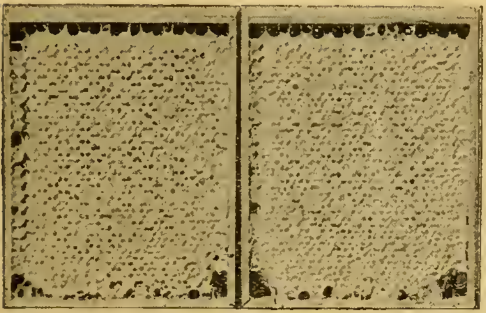
Root's Column

DANZENBAKER HIVE.

The sale of this hive has nearly doubled each year since it was introduced 4 or 5 years ago, and our shipper reports a very decided gain so far this year. We send them all over the United States from Maine to California, besides a number of foreign countries. M. H. Mendleson, of Ventura, Calif., who is one of the largest producers in that State, uses this hive extensively and prefers it to all others for comb honey.



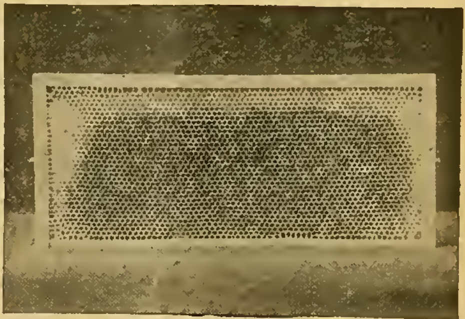
Do you want the names of some of the leading beekeepers who have tried this hive and have reported success with it from year to year? Do you want to know all about this hive and the advantages of this style frame and section? If so, write for FACTS ABOUT BEES. Please enclose a 2-cent stamp. It is a 64-page booklet, full of information. This hive, as well as Facts About Bees, may be obtained of all our principal dealers, or may be ordered from the factory.



HONEY IN DANZ. SECTIONS.

FANCY COMB HONEY.

If you have a market for Fancy Comb Honey, you should not fail to try this hive. There are many reasons why it will pay you. In many of the leading markets honey in these sections will bring one to two cents a pound more than in the 4¼ beeway. If you produce comb honey for profit, you should certainly investigate the merits of this hive.



DANZ. BROOD-FRAME.

Watch this space next week.....

THE A. I. ROOT CO., Medina, Ohio.

SEED DUE BILL FREE

To get new customers to test my **Seeds**, I will mail my **1900 Catalogue**, filled with more bargains than ever and a **10c Due Bill** good for **10c worth of Seeds** for trial **absolutely free**. All the **Best Seeds, Bulbs, Plants, Roses, Farm Seeds, Potatoes, etc.**, at lowest prices. **Nine Great Novelties** offered without names. I will pay **$50. FOR A NAME** for each. Many other novelties offered, including **Ginseng**, the great money making plant. Over 20 varieties shown in colors. **$1100 in cash premiums offered.** Don't give your order until you see this new catalogue. **You'll be surprised** at my bargain offers. Send your name on a postal for catalogue today. **It is FREE to all.** Tell your friends to send too.
F. B. MILLS, Box 88 Rosehill- Onondaga Co., N. Y.

1D7t Please mention the Bee Journal.

Tomato Vaughan's Earliest Of All

Absolutely First of 200 kinds. Medium in size and slightly wrinkled, but of highest quality and flavor, and a great money maker because of its earliness. **Large Pkt. 10c.**

Seeds Free! We want the names of live, active market gardeners. Send us two names and we will mail FREE one pkt. of Globe Radish and one of Iceberg Lettuce, together with our Annual for 1900, a complete mirror of American Horticulture. It tells the whole story of garden, lawn and farm. It's free.

Vaughan's Seed Store,
New York, 14 Barclay St. CHICAGO, 84-86 Randolph St.

Please mention Bee Journal when writing.

GENERAL ITEMS

Weather and Bees in Maryland.

We have been having a cold snap here since Jan. 28, but it seems this morning it will be warmer. The weather had been very warm thru January up to last Sunday evening—no snow with the exception of about one inch Dec. 31. The bees were doing well on the summer stands up to the cold snap. The coldest was yesterday morning, 6° above zero. L. A. HAMMOND.
Washington Co., Md., Feb. 2.

All Publishers Not Swindlers.

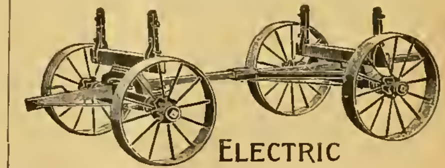
I was very much surprised the other day to hear a farmer friend say that such and such a paper was publisht by a gang of swindlers. I at once hastened to correct his erroneous idea, but he stuck to it. When I pinned him down as to why he thought so, it developt that he had sent the paper a dollar for a year's subscription and had never heard anything from it. I askt him if he had ever written the paper about it, and he replied:

"No, what's the use? If they stole my dollar they wouldn't answer my letter."

Now, this is all wrong. Most men who are doing business try to do it "on the square." If they don't, the postoffice officials soon get after them. If you don't hear

BUY THE BEST.

If you want the best low-down wagon you should buy the Electric Handy Wagon. It is the best because it is made of the best material; the best broad-tired Electric Wheels; best seasoned white hickory axles; all other wood parts of the best seasoned white oak. The front and



ELECTRIC

rear hounds are made from the best angle steel, which is neater, stronger and in every way better than wood. Well painted in red and varnisht. Extra length of reach and extra long standards supplied without additional cost when requested. This wagon is guaranteed to carry 4,000 pounds anywhere. Write the Electric Wheel Co., Box 16, Quincy, Ill., for their new catalog, which fully describes this wagon, their famous Electric Wheels, and Electric Feed Cookers. Please mention the Bee Journal.

NEW C. VON CULIN

INCUBATOR FREE on trial. **The New C. Von Culin** is most perfect in ventilation, moisture and heat.

HATCHES EVERY HATCHABLE EGG. Money made and saved. Catalog FREE. Poultryman's Plans, 10c. Address:

The W. T. Falconer Mfg. Co.,
Ave. **98, JAMESTOWN, N.Y.**

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THE RIGHT SEEDS

My new Seed Book tells all about the best varieties of ONIONS and everything of interest in Seeds; how to grow them
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and will send you a Sample package of my NEW WAMPUM ONION best on earth, together with my Beautiful and Instructive SEED AND PLANT BOOK.

H. W. BUCKBEE.
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Box 587 Rockford, Ill.

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(SEMI MONTHLY).

The representative modern Farm Paper of the Central and Southern Mississippi Valley. Page departments to every branch of Farming and Stock-Raising. Plain and Practical Seasonable and Sensible. Send 25 cents, silver or two-cent stamps, and a list of your neighbors (for free samples), and we will enter your name for 1 year. (If you have not received your money's worth at end of year, we will, upon request, continue the paper to you free of cost another year).

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Wainwright Building, ST. LOUIS, MO.
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from a tray full of eggs. That's what the
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is designed to produce, and it does it with great regularity. Hundreds in use. Automatic throughout. Let us quote you a price laid down at your station. Our catalogue is chock full of practical Poultry information. It is free—not sold.

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CHOICEST FRUIT

and Ornamental Trees, Shrubs, Roses, Plants, Bulbs, Seeds. Mail size postpaid. Larger by express or freight. Direct deal will save you money, try us. Elegant Catalog free. 46th year. 1000 acres, 44 greenhouses.

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If you are interested in Sheep in any way you cannot afford to be without the best Sheep Paper publisht in the United States.

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has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.

WOOL MARKETS AND SHEEP, CHICAGO, ILL.

FREE SEED

Our handsome Garden Annual and Seed Catalogue, or for a 2c stamp, Catalogue and a packet of the IMPERIAL GERMAN PANSY. If you will send us the names of 6 neighbors who buy seed by mail, will send the Pansy Seed FREE for your trouble. Address,
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EVERGREENS

Mention this paper

Hardy Sorts, Nursery Grown. Millions to offer. 6 to 8 in. $1; 12 in. $3; 2 to 3 ft. $10 per 100 prepaid; 4 to 6 ft. $20 per 100. 50 GREAT BARGAINS to select from. Forest and Fruit Trees, Vines, etc. Send for free catalogue. LOCAL AGENTS WANTED.

D. HILL, Evergreen Specialist. Dundee, Ill.
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from the letter you send an advertiser or publisher, don't jump to the conclusion that they have your money and are trying to rob you. Your letter may have gone astray. Give the advertiser a chance to prove his innocence of wrong doing. Then, if he don't straighten out the matter, report it to the postoffice officials, and Uncle Sam will take the offender in hand.

The truth is that it is safer to do business by mail than over a counter.

JOE GRANGER.

Poor Season in 1899.

The past was the poorest season in 10 years. I started in the spring with 6 colonies, increast to 11, doubled back to 8, and got 50 pounds of surplus honey in all. I fed a part of them for winter, and will feed more in the spring. A number of bees thru this part of Iowa will starve this winter. Mine are doing nicely so far, having flights quite often. All are outdoors with but little protection for winter, but the weather has been fine—no snow to speak of.

WM. LYONS.

Sioux Co., Iowa, Jan. 30.

A Report for Last Season.

I started in the spring with 9 colonies, increast to 28, and got 700 pounds of comb honey and 300 pounds of extracted. Bees are wintering all right on the summer stands, packt with eight thicknesses of burlap over the frames. I look for a good crop for 1900, as there are a good many basswood trees in the range of the bee's flight, also lots of white clover.

G. B. DUFF.

Pike Co., Ill., Jan. 31.

Expresses His Thanks.

Allow me to express my thanks to Mr. Thos. G. Newman and also to the American Bee Journal, for the interesting report given on page 49. If all organizations would put before the public, as Mr. Newman did, the good work that they have done, can, and will do, there would be no trouble to increase the funds in the treasury. There would be quite a large number who would join as soon as they knew that their dollar would be a benefit to them, and also to others. I am very sorry that Mr. Newman is compelled to retire, for the world needs thousands of such willing and able men as he is.

Now let all the officers of the Association push forward in the wake of Mr. Newman, and we will increase our hundreds of members to thousands.

ROBT. J. CARY.

Fairfield Co., Conn.

Honey Eye-Wash.

Put into an ounce vial of pure honey a piece of alum as large as the end of the little finger, and then put the vial (corkt of course) into a cornmeal dough, and cook it until the cornbread is done. When cool, take out the vial and it is ready for use.

The above recipe was given to me a month ago. It cured a man here that the doctors said could not be cured; and the man who gave it to me got some for his little grandchild, and said if it cured her it would be worth $500. He said the other day that she was getting better with the treatment. I gave him the honey for it.

N. M. HOLLISTER.

Greene Co., Mo., Feb. 3.

Heavy Loss in Bees Last Winter.

During the winter of 1898–99, while out dehorning cattle, I made it a point to inquire about bees, and found something over 400 colonies in Tama and Marshall counties, and I think in February and March (as I was on the road) I found 87 of the 400 alive. I have learned since then that the 87 nearly half died before May. One man in Marshall county had 100 colonies, and lost every

Sharples Cream Separators: Profitable Dairying

$4,000 IN VALUE FOR 15c.

"How to Make Money with Poultry and Incubators," is a new 192 page (8 x 11 inches) book, filled with articles by the highest authorities in the world, written expressly for this manual. Its preparation cost us $4,000. Send 15c. in stamps and specify book No. 50. It tells all about the famous

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A machine warranted to last ten years without repairs, and to out-hatch, during three trials, any other machine made, bar none. Built for Business. Sold on Honor. Your money back if it does not do all we claim. One style only—Our Best. 16-page circular free. Book 15 cents. Address nearest office,

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and send our Incubators to any responsible person. No one should buy an Incubator and pay for it before giving it a trial. It is made so that nobody can fail with it. A child can run it. 10cts. worth of oil will make a hatch. It beat all others at World's Fair, Nashville and Omaha Expositions. We are sole manufacturers of the celebrated New Premier and Simplicity Incubators. Catalogue 5 cts. Plans for Poultry Houses, etc., 25c.

Columbia Incubator Co., 5 Adams St., Delaware City, Del.

DITTMER'S FOUNDATION

This foundation is made by an absolutely non-dipping process, thereby producing a perfectly clear and pliable foundation that retains the odor and color of beeswax, and is free from dirt.

Working wax into foundation for cash, a specialty. Write for samples and prices.

A full line of Supplies at the very lowest prices, and in any quantity. Best quality and prompt shipment. Send for large, Illustrated catalog.

GUS. DITTMER, Augusta, Wis.
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STEEL PICKET LAWN FENCE,

Field and Hog Fence with or without bottom cable barbed. M. M. S. Poultry Fencing. Lawn and Farm Steel Gates and Posts.

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SUCCESSFUL INCUBATOR

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Box 78, Des Moines, Iowa.

one; another had 30, and got one colony thru. I had 52, and had 18 last spring, but nearly all in bad shape. I had 9 in chaff hives, and 7 of them died, and all had plenty of honey, but only a few bees. One colony had only one quart (prest lightly) of loose bees, that is, those that had not crawled into the combs; the strongest had about 2½ quarts. The small amount of bees I think was due to the fact that there was no fall honey, and therefore no fall brood to rear young bees for winter.

Last season was almost a failure for honey here. I got about 300 pounds of comb honey, and also 200 pounds in brood-frames for the spring of 1900. I have 50 colonies now, 44 in the cellar and 6 in chaff hives on the summer stands.

THEO. S. HURLEY.

Tama Co., Iowa, Jan. 29.

Bees in Almost Air-Tight Places.

During the week since my discovery that bees could live for weeks in an atmosphere containing little or no oxygen, I have thought over the habits of ordinary insects, and how, under their usual surroundings, they do seem to exist in an air perhaps practically destitute of oxygen. Every bee-keeper knows how an old box or barrel containing old combs will heat up from the maturing larvæ of the wax-moths it contains, which, while practially air-tight, does not hinder, but, on the contrary, assists their development.

Ants that live in families in the earth or old decayed logs, may find the air we breathe not essential to them. In Honduras I saw many ant-nests at the foot of trees larger than a bushel basket, practically a solid mass of living ants—so great were their numbers that they had roads and brought leaves from lemon trees to support their young. One would think fresh air would have been difficult of access in the center of such nests.

Perhaps an illustration may be found in the hatching of queens, which are sufficiently developt in an air-tight cell to be able to fly as soon as they can escape from it. In such cells it would be reasonable to presume the air might have become at least poor in her last 10 days' confinement.

Of course, it will be said that these references are of no value—Nature has her way of doing such things. That is all very well on general principles, but perhaps while the habits of insects have been studied carefully the chemical conditions of the air they breathe has escaped analysis.

Clare Co., Mich. T. F. BINGHAM.

Bees For Sale

I have 3 well equipt apiaries on least ground in the Kickapoo Valley, all well located in the white clover and basswood belt of Wisconsin, consisting of from 100 to 150 colonies, each in 8-frame Langstroth hives; extracting-cases, extractor, wintering-cellar, honey-house, etc., at each apiary, all in good condition, nearly new. I will sell one apiary or more, on easy terms, and at a bargain. Address,

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Golden's Combination Hive!

I am now prepared to fill orders, either in the flat or made up complete, excepting foundation-starters, for the Golden Combination Comb-Honey Hive. Full directions for manipulating accompany each order. Inquiries promptly answered.

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Pat. Jan. 2, 1900

NEW IDEA SEED SOWER
Constructed on a new principle. We've hit the right idea. The simplest, strongest, widest, most even sower made. Saves seed and time. Sows all seeds. Is cheap. Catalogue and terms to agents free.
J. A. EVERITT, Seedsman, Dept. 62 Indianapolis, Ind.
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to investigate the difference between our prices and those of agents and dealers for the same grade of work.
...WE DO NOT SELL...
through agents or dealers, therefore we do not have them to protect, and in making our prices are enabled to figure them as low as the grade of work we manufacture can be sold. We save you the profits that are added between the manufacturer and the consumer, by selling direct to you from our factory. This has been our method of selling for the past twenty-seven years, and we are today the largest manufacturers of vehicles and harness in the world selling direct to the user exclusively. We make 178 styles of vehicles and 65 styles of harness and ship anywhere for examination, guaranteeing safe arrival. Send for free catalogue showing all of our different styles.
No. 48.—Single Strap Collar and Hame Harness. Price with nickel trimmings, $11. Good as sells for $16.
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Don't expect eggs to hatch or chicks to grow under poor circumstances. Give 'em a chance. Have everything exactly right. They get the best possible chance in the
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machines that never fail. They hatch every fertile egg because they supply heat, moisture and ventilation exactly as required; they produce vigorous, healthy chicks, and keep pushing them until ready for the perch. Absolutely self-regulating. RELIABLE PLIANT LEG BANDS. Easiest applied and most durable bands made. Can't come off. Price, 12 for 20 cts., 50 for 50 cts., 100 for 80 cts., 500 for $3.75, 1,000 for $7.00. Postage or express free. RELIABLE EXHIBITION COOPS save time and worry, best appearance, easy to keep clean. 20TH CENTURY POULTRY BOOK covers the poultry question from A to Z, from incubation to market. Admittedly the most practical poultry book ever printed. It tells all about the best incubators, brooders and poultry supplies. Sent free for 10c postage.
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Has no Sag in Brood-Frames.
Thin Flat-Bottom Foundation
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Being the cleanest is usually workt the quickest of any foundation made.
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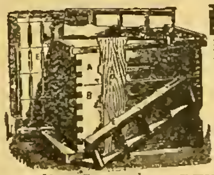

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results from the best care of the bees. That results from the use of the best Apiary appliances.
THE DOVE-TAILED HIVE
shown here is one of special merit. Equipped with Super Brood chamber, section holder, scalloped wood separator and flat cover. We make and carry in stock a full line of bee supplies. Can supply every want. Illustrated catalogue FREE
INTERSTATE MANFG. CO., Box 10, HUDSON, WIS.
Please mention Bee Journal when writing

WANTED! for the coming season, a party having some experience handling bees, who wishes to learn the business thoroly—one having say $300 to purchase adjoining apiary preferred. To such a liberal arrangement will be made. Applicant must have references. Address,
BEE-KEEPER, care of C. H. CLAYTON, ESQ.,
Secretary Bee-Keepers' Exchange,
LANG, CALIF.

FOR SALE
My place 40 miles east of Chicago, consisting of 4 acres almost all set out to fruit. Good new buildings; excellent poultry farm; 60 laying hens and 19 colonies of Italian bees go with place. $500, spot cash.
M. F. Hathaway, Palmer, Lake Co., Ind.
Please mention Bee Journal when writing.

Convention Notices.

Utah.—The Utah State Bee-Keepers' Association will hold its semi-annual convention in the City and County Building, Salt Lake City, Apr. 6, 1900, at 10 o'clock a.m. A full program in the interest of the industry will be presented, and all our bee-keepers can help themselves by aiding the Association, and in order to create a closer bond of union among our bee-keepers. As a further incentive to the success of the bee-industry, it is very desirable to have our bee-keepers from all parts attend the spring convention.

J. B. FAGG, Sec.

California.—The tenth annual convention of the California State Bee-Keepers' Association will be held in the Chamber of Commerce, at Los Angeles, Feb. 21 and 22, 1900. It will be called to order at 1:30 p.m., Feb. 21. At this time the railroads will sell round-trip tickets to Los Angeles and return for one and one-third fare, on account of the Industrial, Mining, and Citrus Exposition, which will be held in Los Angeles. Tickets good for 10 days. Let every bee-keeper bring some hive, tool or experience that he has found valuable, and we will have a good convention.

J. F. MCINTYRE, Sec.
Sespe, Calif.

* * *

The Great "Liberty" Field Corn.—For 1900 H. W. Buckbee, Rockford Seed Farms, Rockford, Ill., is offering his customers a new variety of seed-corn, which has already excited wide attention from corn-growers. It is Buckbee's Liberty Field Corn, which Mr. S. C. Clark, of Ohio, the largest grower of seed-corn in the world, has pronounced "the best corn of the century." The "Liberty" is the result of long years of selection, and Mr. Buckbee is proud of having produced a field-corn which combines more good points than are found in any other in cultivation. The test fields last year with only average cultivation, yielded upwards of 100 bushels per acre, with ears ranging from 8 to 12 inches, the cobs small and well filled with from 16 to 20 rows. The fodder stands 7 to 12 feet high and withstands storms perfectly. It matures in 90 days. While the corn is very pure in growth and habit, it is of a remarkable type and color, the grain being variegated, red, amber, golden-yellow, all on one cob. Every one who has seen this corn in the field is enthusiastic in praise of its abundant yield and its early maturity. A sample of this Great Liberty Corn will be sent free when requested, in combination with his 1900 seed catalog to any reader of the American Bee Journal. The catalog has on its cover a reproduction in natural colors of this remarkable variety of field-corn. Don't fail to see it. Address H. W. Buckbee, Rockford, Ill., and please mention the American Bee Journal when writing him.

The Illinois Incubator.—No incubator made has done more to make converts than the famous "Illinois," made by J. H. Jones, of Streator, Ill. This is its 8th year on the market and every season has seen it grow in popularity. The explanation is that it is sold on the guarantee that it is a perfect hatcher. Write to Mr. Jones for the handsome free catalog, fully describing the machines and giving valuable hints as to the care of poultry. Please mention the American Bee Journal when writing.

Messrs. Flansburgh & Peirson, Leslie, Mich., appear as advertisers in these columns. This is a consolidation of two well known gentlemen of long experience in their several lines, and promises for its many patrons even more efficient service and better satisfaction than was possible when operating as individuals. Michigan grown stock is famous for its vigor and healthiness. Especially is this true of strawberries and potatoes, both of which are made a specialty by this firm. Their catalog shows a complete line. It is copiously illustrated with half-tones from photographs and hence true to life. Our readers will doubtless serve their own interests, and confer a favor on us, if they write Messrs. Flansburgh & Peirson for a catalog, and mention this paper.

* * *

THE PEN IS MIGHTIER
than the sword, if the Pen is made of Page Fence.
PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.

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SAVE YOUR BACK

Save Time and Labor and Get Better Results by Using Matthews

NEW UNIVERSAL HAND SEEDERS and CULTIVATORS

Suitable for every class of work.
STANDARDS OF AMERICA.

All styles. Only combination 1 and 2 wheel cultivator and drill made. Everyway adjustable. All our tools have tough oak bent handles and are made of best material throughout. Popular prices to early purchasers. Send for our free book on garden tools. **AMES PLOW CO., Boston and New York.**

HAMMOND'S

Michigan Northern-Grown Onion Seed.

I sold 56,000 lbs. of this seed in 1899. My customers report yields of 450 to 1,265 bushels of onions per acre from this seed. Some of them intimate that this seed is worth $5 to $10 per lb. more than the California grown seed sold by anybody. I guarantee this seed to be new and freshly grown. We have seed of all the leading and standard varieties. We make special prices on large lots. Onion sets of all varieties. Buy direct from the grower. Catalogue—extended and illustrated—free.

Harry N. Hammond, Seedsman,
Box 2, FIFIELD, MICH.

COMB FOUNDATION,

WHOLESALE AND RETAIL.

Our catalog describes several styles Hives, Sections, and in fact EVERYTHING A BEE-KEEPER NEEDS. It is free. We can please you if any one can. BEES AND QUEENS IN SEASON.

Apiaries—Glen Cove, L. I. **I. J. STRINGHAM. 105 Park Place, New York, N. Y.**

STRAWBERRIES—90 Varieties. Including new Gladstone, Pennell, Senator Dunlap, Twilight, Livingstone, Emperor, Empress, Rough Rider, W. J. Bryan. All standard, well-rooted plants. Don't miss our plant collection offers. **FLANSBURGH & PEIRSON, LESLIE, MICH.**

POTATOES. Early Snowball and twenty other leading varieties. *Catalogue Free.*

7A6t Please mention Bee Journal when writing.

—SUBSCRIBE FOR THE—

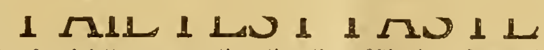
Farmer's Home Journal, Louisville, Ky.

A practical business paper for the farmer. It treats of farming and stock breeding from both practical and scientific standpoints. It is the oldest and best known agricultural weekly in the South. If you have anything to sell send us your advertisement. Every farmer who expects to mix "brains with muscle" in his business should read this paper. Subscription price, $1.00 per year. Sample copy free. Address, FARMER'S HOME JOURNAL, Louisville, Ky.

$100 to the Winners

These wintery evenings you have some time to spare, so here is a puzzle you can solve. If you have not the leisure to-night, put it aside until to-morrow night or, better still, call the attention of the members of your family who have a taste for puzzles, to it. Some of you can hardly fail to get it. It is purely a test of quick-witted observation without any element of chance. There is only one answer that can be obtained by properly finishing the letters and supplying the space to make words of the letters. We give below two lines of incomplete letter puzzles By solving one of them you earn a prize, and by solving both correctly you come in on the $100 prize to the winners.

Other Prizes To any contestant sending a correct answer to one of these puzzles, we will send their choice of a year's subscription to "The Gentlewoman," or "American Fruit and Vegetable Journal," or "American Poultry Advocate," or your choice of any one of the following books: "The New Hygiene," a book on up-to-date treatment to maintain health without medicine; the works in one volume of Charlotte M. Braeme; or the "Duchess"; or Miss Muloch's; or Sylvanus Cobb, Jr., or Miss Braddon's; or Wilkie Collins; or Mary Cecil Hay. When sending in your answers name the prize you wish, should only one puzzle be answered correctly. The first puzzle is



This puzzle consists of a line of 13 incomplete letters, which if complete would spell three words. Only the lower two-fifths of each letter appears, the other three fifths have been cut off What are these three words? They are all taken from this very advertisement. The words are not separated from each other, but the letters follow in correct order, all they need being the space. There is no transposition or trick of any kind. Taking one letter right after the other from the first to the thirteenth they spell three words. EACH WORD IN BOTH PUZZLES APPEARS SOMEWHERE IN THIS ADVERTISEMENT. There is no chance about it. If there were two correct answers to either one of these puzzles, the Farm, Field and Fireside would be refused the mail for running a lottery.

The second puzzle consists of 13 incomplete letters forming four words. the letters following consecutively as in the first: In order to get all the words in this advertisement as promised we are compelled to tell the following little story: "Some animal was injuring our trees on the hill, so we placed a poisoned paste in a tart, which the animal ate, and I hate to say what the pest proved to be. Can you guess? We found that the poison had made it very ill, and we took it by the tail and drowned it in the pond."

The object of the puzzle is in part to secure a large number of new trial subscribers to the Farm, Field and Fireside, the greatest agricultural weekly in the west Do you know of any farmer who might be interested in a good farm paper? We want him on our list for a short time, and as the contest is inaugurated for the purpose of introducing our paper into new homes we make the following the

Conditions: To be eligible to receive a prize every contestant must send with his or her answer the name of a person not now a subscriber, with 25 cents to pay us for sending the paper to him on trial for three months.

Remember, if you get one line right you earn a prize. and if both are right you are in on the first prize. THIS CONTEST WILL CLOSE MARCH 31. ADDRESS PUZZLE DEPARTMENT FARM, FIELD AND FIRESIDE, 710 MASONIC TEMPLE, CHICAGO.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Feb. 7.—Trade is slow in comb honey, choice lots of white bring 15 cents, with that a little short of this grade, 13@14c; ambers range from 10@12c; dark, 8@10c; no fancy lots on the market.

Extracted, fancy white, 9c; amber to white, 7½@8½c; dark and buckwheat range about 7c. Beeswax is selling on arrival at 28 cents.

R. A. BURNETT & Co.

CINCINNATI, Dec. 27—There is a good demand for all kinds of extracted honey.. White clover and basswood sell at 8@8½c; amber and Southern, 6@7c, according to quality and package. Fancy comb honey in no-drip shipping-cases sells at 15@16c; darker grades hard to sell at any price. Beeswax, 26c. C. H. W. WEBER, Successor to Chas. F. Muth & Son and A. Muth.

LOS ANGELES, Jan. 4.—1-pound frames, 12½@15c; 2-pound cans, 2 dozen in case, per dozen, $2.50; 2-pound glass pails, per dozen, $2.50. Extracted, water white, 60-pound tins, per pound, 8½c; light amber, 7½@8c; dark amber, 7½c. Beeswax, 25@26c.

KANSAS CITY, Jan. 19.—We quote No. 1 white comb, 13½@14c; No. 2, 13@13½c; No. 1 amber, 13@14c. Extracted, white, 7½@8c; amber, 7@7½. Beeswax, 20@22c.

The supply and demand for comb honey is light. The demand for extracted since the first of the year not so good. C. C. CLEMONS & Co.

BUFFALO, Jan. 5.—Market bare of fancy white one-pound comb honey, and selling at 15@16c; fair to good, 12@14c; buckwheat, dark, poor, etc., 8@10c. Fancy pure beeswax, 28@30c.

BATTERSON & Co.

NEW YORK, Feb. 8.—During the past 30 days our market has been somewhat slow and easy in both comb and extracted honey. Stocks of comb honey, however, are almost exhausted, and there is a fair demand for all grades. Fancy white selling at 15c; No. 1 white at 13@14c; fancy amber, 11@12c, and buckwheat at 9@11c, according to quality, etc.

Our market is well supplied with extracted, tho prices are firm and unchanged. Beeswax sells very well at from 26@28c, according to quality. HILDRETH & SEGELKEN.

SAN FRANCISCO, Jan. 10.—White comb, 11½@12½c; amber, 8@10c. Extracted, white, 7½@8c. light amber, 7@7½c; amber, 5@5½c; Beeswax, 26@27c.

Offerings and demand are both light, and this must continue to be the case until the end of the season. Business is necessarily of a retail character, but at generally firm figures, especially for choice extracted, which is in lighter supply than comb.

BOSTON, Jan. 12—We quote as follows: Fancy white, 16c; A No. 1, 15c; No. 1, 13@14c; buckwheat will not sell in this city. Extracted, light amber, 7@8c. Demand is very light.

BLAKE, SCOTT & LEE.

ALBANY, Jan. 10.—We quote: Fancy white comb, 15c; No. 1 white, 13@14c; mixt, 11@13c; buckwheat, 10@11c. Extracted, white, 8@9c; mixt, 6½@7c; dark, 6. Beeswax, 26@28c.

MACDOUGAL & Co.
Successors to Chas. McCulloch & Co.

OMAHA, Jan. 4.—Prices remain unchanged. Fancy white is still moving slowly at 14@14½c. Extracted, white, 8½c. Now that holiday trade is over and dealers have taken their inventory, they soon will be thinking of replenishing their stock and more lively trade is anticipated in the near future, but no material advance is lookt for during January. PEYCKE BROS.

DETROIT, Feb. 10.—Fancy white comb, 15@16c; No 1, white, 13@14c; fancy amber, 11@12c; dark and undesirable lots, 8@10c. Extracted, white, 7@7½c; amber and dark, 5@6c. Beeswax, 25@26c. Supply of honey fair with light demand

M. H. HUNT & SON.

WANTED.—Extracted honey; all kinds; mail sample and price expected delivered at Cincinnati. I pay spot cash on delivery.

C. H. W. WEBER,
Successor to Chas. Muth & Son and A. Muth.
40Atf 2146-48 Central Ave., Cincinnati, O.

Wanted! Your HONEY We will buy it, no matter where you are. Address, giving description and price,
34Atf THOS. C. STANLEY & SON, Fairfield Ill.

Please mention Bee Journal when writing advertisers.

Latest Improvements. Perfect Goods.
Very Reasonable Prices.

Hives, Shipping-Cases
Sections,
Extractors, Etc.

EVERYTHING A BEE-KEEPER NEEDS. *********

Catalog and copy of
"The American Bee-Keeper"—FREE

ADDRESS

THE W. T. FALCONER MFG. CO.,
JAMESTOWN, N. Y.

The American Bee-Keeper is a live Monthly, and has been publisht by us for the past 10 years—50 cents a year.

Please mention Bee Journal when writing.

Here we are to the front for 1900 with the NEW

CHAMPION CHAFF-HIVE,

a comfortable home for the bees in summer and winter. We also carry a complete line of other SUPPLIES.

Catalog free. R. H. SCHMIDT & CO.
Sheboygan, Wisconsin.

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BEES QUEENS
Smokers, Sections,
Comb Foundation
And all Apiarian Supplies
cheap. Send for
FREE Catalogue. E. T. FLANAGAN, Belleville, Ill.

Please mention Bee Journal when writing.

M. H. HUNT & SON,

SELL ROOT'S GOODS AT ROOT'S PRICES.
Shipping-Cases and Danz. Cartons are what you need to display and ship your honey in. Send for Catalog. BELL BRANCH, MICH.

Please mention Bee Journal when writing.

Bingham Smokers.

BINGHAM
BeeSmoker

Smoke Engine, Doctor and Conqueror will have our....

New Brass
Telescope Hinge.

Prices same as last year.

Address,

T. F. BINGHAM,
Farwell, Mich.,

For Circular, giving full information and prices.

Please mention Bee Journal when writing Advertisers.

23rd Year **Dadant's Foundation.** 23rd Year

Why does it sell so well?

Because it has always given better satisfaction than any other.
Because in 23 years there have not been any complaints, but thousands of compliments.

We guarantee satisfaction.

What more can anybody do? BEAUTY, PURITY, FIRMNESS, No SAGGING, No LOSS.
PATENT WEED PROCESS SHEETING.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

BEE-KEEPERS' SUPPLIES OF ALL KINDS.

Langstroth on the Honey-Bee, Revised.

The Classic in Bee-Culture—Price, $1.25, by Mail.

Beeswax Wanted at all times.

CHAS. DADANT & SON,
Hamilton, Hancock Co., Ill.

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Experience the Best Teacher.

But a wise man profits by the experience of others. Every farmer and dairyman needs a practical, helpful paper like

Dairy and Creamery

PUBLISHED AT CHICAGO, ILL.,

filled with information gathered from the actual experience of practical and scientific breeders and feeders of cattle and pigs. He wants to know how other men get the best results; how to feed to the best profit; how best to utilize his skim milk; how to build up a first-class dairy from the resources he has; what crops to grow to keep up the flow of milk at all seasons.

Last year a patron of a Kansas creamery who read a dairy paper and kept good cows, made $36.00 per cow more than the poorest patron of the same creamery who did not read a dairy paper. That means something; it shows the value of an up-to-date, reliable adviser like DAIRY AND CREAMERY. (Subscription 50 cts. per year.)

FREE! We will send DAIRY AND CREAMERY, the best semi-monthly paper published for farmers and dairymen, absolutely FREE for one year to all new subscribers to this paper, and to all old subscribers paying their subscription one year in advance. Both papers for the price of one. Send your subscription to this office while this offer is open. Both Papers $1.00.

AMERICAN BEE JOURNAL, CHICAGO, ILL.

A Further Offer: We will give Dairy and Creamery for one year as a premium to any one of our readers who sends us one new subscriber to the American Bee Journal for one year at $1.00. Unless these offers appear again after March 1, in these columns, they will be withdrawn at that date; so you would better take advantage of them at once. Address,

1D4t GEORGE W. YORK & CO., 118 Mich. St., Chicago, Ill.

Marshfield Manufacturing Company.

Our specialty is making SECTIONS and they are the best in the market. Wisconsin BASSWOOD is the right kind for them. We have a full line of BEE-SUPPLIES. Write for free illustrated catalog and price-list.

MARSHFIELD MANUFACTURING CO., Marshfield, Wis.

Please mention Bee Journal when writing.

MASSACHUS

GEORGE W. YORK, Editor.

AMERICAN BEE JOURNAL.

ESTABLISHT IN 1861 OLDEST BEE-PAPER IN AMERICA

DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS.

40th YEAR. CHICAGO, ILL., FEBRUARY 22, 1900. No. 8.

BIOGRAPHICAL

Mr. D. H. Coggshall, His Home and Apiary.

DAVID H. COGGSHALL was born Dec. 1, 1847, in Tompkins Co., N. Y., and was one of a family of 4 children. His early years were spent in the routine of farm life, where he early formed the habits of industry and self-reliance.

February 24, 1869, Mr. Coggshall was married to Clarinda F. Smith. Three children have been born to them, of whom two survive—a son and daughter.

In 1861 Mr. Coggshall's grandfather, Wm. Green, gave him a swarm of bees and he began a series of experiments in their management. He first tried wintering them in the house-cellar, but this was not successful. Up to 1866 his bees were kept in box-hives, when he bought the D. P. Kidder movable-frame hive and transferred his bees to them. Experience proved this to be a step in the right direction. The Kidder hive being double-walled he now began wintering bees outdoors, with fair success. During all this time he read all the books and papers on bee-culture which he could get, and among them was "Langstroth on the Honey-Bee."

Home of Mr. D. H. Coggshall, Tompkins Co., N. Y.

In 1867 he made 13 Langstroth hives and put 13 new swarms into them. He now built a bee-house 12x16 feet, with a packing of sawdust in the wall one foot thick, and tried wintering bees in it, but with this he was disappointed, as the bees wintered no better than in the house cellar. The wintering problem was finally solved by use of the chaff hive in which the bees are packt in dry sawdust and left outdoors.

In 1868 he made a honey-extractor with an apple-paring machine for gearing; this was a crude affair, and did not work to suit his ideas, so he built a heavier one, using clover-huller bevel-gears, geared one to three, which workt very satisfactorily, and is the one shown in the cut standing on hive No. 160 in the picture. This machine is non-reversible, taking 4 Langstroth frames, the frames hanging exactly as they do in the hive. Instead of being placed in the 4 sides of the basket, in the ordinary fashion, they are set down in the machine, two on a side. A strip of tin separates the two combs so that the honey from the inner one, instead of striking the outside comb, flies against the tin, draining down in the extractor. The cross arm and bearings are made of wood.

Mr. Coggshall says it is a great advantage to set the combs in the extractor in the same way they are taken from the hive, as they can be pickt out of the hive and set down in this extractor more rapidly than the same number of combs could be pickt out and inserted in a Cowan extractor, as in the case of the latter the frame is lifted out with one hand, and with the other turned at right angles so that it can be set down endwise in the machine.

Previous to 1866 Mr. C. practiced natural swarming, but after procuring the Kidder movable-frame hives he began increasing artificially, with alternate success and failure; but the artificial, or dividing, method appearing to have so many advantages was persisted in and perfected until now, and for many years past it has been the only method used.

Soon after queen-excluders were put on the market he began using them with great success, and says that without them he could not manage all his out-apiaries. Since using them he has had no trouble in controlling the increase, and the end of the season finds the bees with plenty of honey in the lower story for winter use.

About 1870 Mr. Coggshall's brother, W. Lamar, entered into partnership with him in the bee-business, and they workt them together under the name of Coggshall Bros., up to 1877, when the partnership was dissolved.

In 1881 his brother and himself shipt their first full carload of honey to New York City, since when the product has increast until the past season's shipments aggregated about five carloads.

Mr. Coggshall now manages his home apiary and six outlying yards, numbering about 600 colonies, run almost entirely for extracted honey.

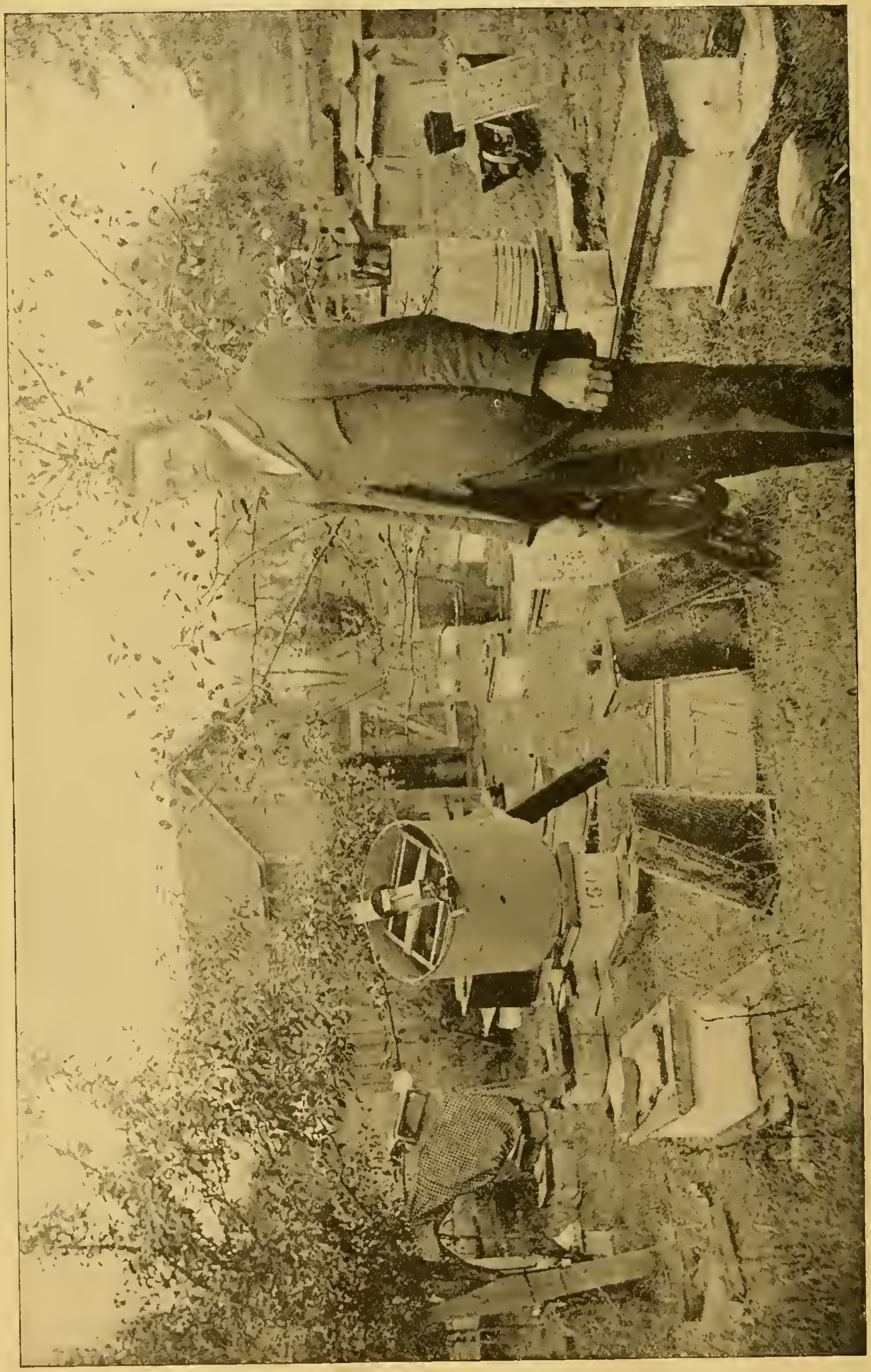
In the illustration is shown the style of bee-dress worn by Mr. C., which has a wire-screen in front of the face, fastened in the veil, which is attacht to a loose blouse gathered at the waist by a rubber cord, making it absolutely bee-proof.

There is also shown an 18-gallon honey-keg, 60 of which were filled in this yard in 1896 with well-ripened honey. Lying on the keg is a Crane smoker, the kind preferred. Near by is the wheelbarrow and queen-excluders. Near the center is the uncapping-can, while in front are some empty extracting-combs in frames, of which he has some that have been in constant use from the first.

The trees shown in the yard are Kieffer pears, which are well loaded, and only 10 years old.

The yard contains about 110 colonies, and is shown in September, after the extracting-stories were removed and stones put on the hives to hold the covers down. A part of the chaff hives in which the bees are wintered are also shown, and when put up in this way the bees in this yard have always wintered successfully.

After all these years of study, experiment, failure, and success, the subject of this sketch feels well repaid in the knowledge gained and the pleasure and satisfaction of achieving a well-earned success. Mr. Coggshall has been a subscriber and constant reader of the American Bee Journal since it was publisht by Samuel Wagner at Washington, D.C., and now has complete files of the same.



Mr. D. H. Coggshall and one of his Out-Apiaries, located in Tompkins County, New York.

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No. 7.—How to Get the Most Out of the Honey-Extractor.

BY "OLD GRIMES."

WE have used quite a number of extractors in our work, and find that it pays to keep up with the times and use the latest improved styles, and now use the Cowan, and for general use the 4-frame extractor gives the best results. There is no doubt but a 2-frame extractor could be workt to advantage in a large apiary. It is certainly a fact that in a 2-frame extractor, where the combs are so near the spindle or center, the labor of turning the machine is trifling, and the honey is thrown out in less time than when the combs are a foot or more from the center. With the 4-frame extractor, if properly geared, and with a crank of not less than an 8-inch radius, the labor is not heavy.

In selecting an extractor the purchaser should buy one that is within the range of a boy's or a girl's strength to operate. There are some six or eight frame extractors; these are all well enough for power, but are a sort of a man-killer when run by hand, and would certainly be too much work to put on a boy or girl, or even the good wife.

A bee-keeper can get much more out of an extractor in this year of 1900 than he could 15 or 20 years ago. The machines are better made and less cumbersome in their work. The next 20 years will probably see as great improvements. It would perhaps be considered a backward movement to say that the future extractor will be improved along the lines of the 2-frame principle; still it must be remembered that many an old and rejected principle has been the best one all along. The future extractor will be entirely automatic as to reversal of frames and the motive power.

While operating an extractor the person should temper his strength to the strength of the extractor—a very strong and careless person will sometimes reverse this tempering, and the result is a broken machine.

In order to get the most out of an extractor it really seems as necessary for it to be of the reversing order, for many times while extracting new and fragile combs it is necessary to reverse before the honey is all thrown from one side; the weight of a comb against the wire-cloth of the basket will so indent into it that it will break the comb to pieces unless the reversals are made often and the motion is moderate.

In order to get the most out of an extractor some bee-keepers extract quite an amount of larvæ with the honey, but here is a case where the operator would better be content with a little less. Old Grimes learned a lesson many years ago that cured him of this trick. There was quite an amount of said larvæ in all stages of development in the strainer, and we all know that they never look very nice, and we prefer that our customers should not see them; but there came a city lady who was being shown the mysteries of the bee-business; everything was new and very interesting to her until she came to the strainer with the white larvæ in it, and the honey running over them. Then and there, from the remarks she made, she forgot all the rest she had seen, and only remembered "those worms," as she termed them, and thereafter she never would allow a drop of liquid honey to pass her lips—she knew just how it was extracted. Altho but a very little of our honey had been in contact with the larvæ, it made no difference, it was all alike to her.

If much larvæ is thrown out with the honey it will injure the flavor. A good way to overcome the larvæ trouble is to return to the hive all combs having unsealed brood. It may be a little trouble and a delay in the extracting of that comb, but it pays. Another way out of the woods is to use the queen-excluding honey-board; all honey stored above it is sure to be free from larvæ, and for that reason it is used quite extensively in our apiaries.

A honey-tank is almost a necessary adjunct to a honey-house and an extractor, because there are many localities where the honey is always of such consistency, and the bee-keeper so careful to extract nothing but ripe honey, that it can be safely run from the extractor to the barrel. Where barrels are used that hold from two to three hundred pounds, the tank can be very well dispenst with, but even then it is better to allow the honey to remain in some large vessel until the little specks of comb rise to the surface, then the honey will all be perfectly clear. When honey is put into smaller packages, holding from one pound to 60, the tank is a necessity, for the honey that is put up for table use should be free from all of those little specks. Nice, clean honey adds to the reputation of the bee-keeper.

Where a tank is used a very good size is a capacity for a ton of honey, or about four feet in diameter and two feet deep. We place this in our basement, but when used in the out-apiaries it is placed outside the building, and has a wire-cloth cover to it. The air has free access to the surface, and any thin portion that rises to the top is soon evaporated. A two-inch faucet should be used for drawing off the honey, and it is a very good idea to fix the gate so as to insert a padlock, and then there will be no danger that the gate will be elevated in our absence. Spilled honey makes the earth sweet, but it has the opposite effect upon the temper of the bee-keeper.

Hives, Queens, and Honey-Flow.

BY HENRY BIDWELL.

THE three greatest drawbacks to successful bee-culture in America are, small hives, forced swarms, and deficiencies in the flow of honey during the spring, summer and fall of each year.

A hive ought to be large enough for a queen to have brood-combs sufficient to enable her to lay all the eggs she possibly can, so that her worker progeny will be numerous enough to gather all the honey possible during the yield of nectar.

The queen ought to be developt sufficiently so she can readily lay 4,000 to 5,000 eggs a day—the more the better—and the honey-flowers should follow in succession from early spring until late in the fall. A perfect knowledge of the flora within a mile of his apiary ought to be one of the first lessons to learn by a beginner in the bee-business.

We can all get one-hundred dollar queens by increasing the size and capacity of our hives, queens and flower fields, when the day of cheap queens will be in the past. One hive with a bushel of worker-bees capable of gathering 100 pounds of honey in a honey-flow is worth more than 10 colonies, each with a hat full of bees only gathering enough to feed the brood. I cannot remember a season in the past 50 years when there was not suitable weather for the bees to gather surplus from good honey-producing plants, with large hives and plenty of honey-gatherers. Providence is not to blame for our short-comings, because you can take a dollar queen to-day and in 10 years make it worth $100, by careful and constant development; or you can reverse the process. But remember, it is easier and faster going down hill than up; and if you want to keep clear of foul brood, you would better let forced queens alone.

A queen capable of laying 1,000 to 2,000 eggs a day will find an ordinary 8-frame hive of sufficient capacity; but if she can do better than that, she needs a 10-frame hive; and if her capacity is 5,000 eggs a day, a double 10-frame hive is necessary for her to reproduce herself. You must expand the brood-nest if you wish to increase her capacity; and while she is doing her best is just the time to rear as good or better daughters if she is not already fully developt.

I think a queen lays a better egg in a natural cell when she wishes to reproduce herself than ordinary worker-eggs; and a good, strong, healthy queen is better in her prime than an old, weak and feeble one. I prefer to rear my young queens under the most favorable conditions for the full and perfect development of her greatest vitality and prolificness, and only allow the best and strongest colonies for that purpose. I also wait until they swarm out naturally, knowing it is one of their natural, God-given instincts to do so, and prosper better for it. I then hive the new swarm and place it on the old stand, and divide the old colony into as many parts as there are sealed queens, putting the combs into empty hives on one side, and placing each new part on the top of a strong colony, then give each a quart of the bees from the new swarm, leaving them until the young queens begin to lay, then substitute them with those underneath, removing them to a new place.

If you wish to grow flowers for honey alone, plant borage—one peck of seed to the acre, sowed broadcast early in the spring, if the land is clean, or drill it in and hoe or cultivate if the land is foul. It begins to bloom about the first of June, and increases as the season advances until frost. The honey is of good quality, amber in color, and as the flowers hang down the honey is not washt out by the rain or dew, but as the seed falls to the ground as fast as it ripens, and is quickly devoured by the birds and fowls, it requires great care to gather it.

The best farm crop for bee-pasturage here is alfalfa. Sow a peck to a half bushel of seed to the acre early in the spring, or just before the fall rains, on good, deep land where it can remain permanently. This begins to bloom about the middle of May, continuing about one month, but if a portion of the field is cut previously it comes on and blooms after the first, second, and third crops, continuing the bloom all summer and fall. Alfalfa is destined to be the principal honey-producing plant in the United States.

Sedgwick Co., Kan.

Shallow vs. Full-Story Supers for Extracted Honey.

BY C. P. DADANT.

I AM thinking of running my bees for extracted honey, to save time and to better control swarming. I use 10-frame Langstroth hives. Would you advise the use of half-story or full-story supers? You know what the "Draper barn" is. Would you use this hive with ordinary Langstroth hive-bodies for supers?

We have, at different times, in the columns of the American Bee Journal, stated our preference for half-story or shallow supers, and the reason for this preference. But it seems necessary, in a periodical publication, to come back to the same subject quite often, especially if it is of importance. The answer to questions like the above concerns most especially beginners. Practical bee-keepers who have had years of experience do not look for advice on subjects of this kind, because they have either tried the methods recommended and adopted them, or have rejected them for reasons that are connected with their own practice; or because they have already traced for themselves a course to follow with which they are well satisfied, and do not care to try anything else. In bee-keeping, as in other pursuits, men succeed under different circumstances, following entirely different methods, and each man is prone to consider his method best if it has stood the test of experience in the circumstances in which he finds himself placed.

Let me state at the outset that I consider the "Draper barn" a better hive than the ordinary Langstroth. The Draper barn, called after Mr. A. N. Draper, of Madison Co., Ill., was originated to follow the methods recommended by us, and is substantially a Langstroth hive, the body of which is a little over two inches deeper than the ordinary style, giving the bees a greater breeding-space. This hive takes the same supers, sections, covers, etc., as the ordinary Langstroth hive.

We prefer a shallow super in extracting for several reasons, and before we give these reasons allow me to say that it was only after a practical trial on a large number of hives for several years of both a 10-inch super and 6⅜ super that we gave our preference to the latter. Experiments on a large number of hives are quite expensive; but they are the only tests which may be called practical and conclusive. I would not accept as of any value a test made on one or two hives; as the experience thus gained might be distorted (if I may thus express it) by special conditions of the colonies which served for the test. There is so great a difference in the results obtained from colonies of different strength, or different degrees of prolificness, other circumstances and conditions notwithstanding, that it is well nigh impossible to assert anything, or lay down any rule from anything but a wholesale trial. In the latter case a fair average is usually struck, as you are likely to have on either side a test of colonies in all sorts of circumstances.

In the first place, we prefer the super with a 6-inch sidebar, what we call the "half-story super," because its frames are very much more easily handled for extracting than any other. The depth of the comb is just right for the honey-knife to reach across its face from top to bottom, and a comb is uncapt at a single stroke. There is less weight, such a comb weighing from 3 to 5 pounds, and less danger of breaking down in handling or in extracting. The large combs we use in the body of the hive, weigh 8 to 10 pounds, and the combs of a "Draper barn" would come very near 8 pounds when full of honey. Those of a Langstroth frame weigh less, but are still quite heavy and unwieldy, and are readily damaged when handled in hot weather, if they are new and very full of fresh honey. This is, however, not the main reason for our preference for shallow extracting-frames.

Experience with the deep super full-size frame has shown us that with such supers the queen is much more readily induced to ascend into the upper story to lay than with a shallow super. I ascribe it to the fact that it takes quite awhile for the bees to occupy the entire super and place honey in every cell. In a shallow super the space is very much more quickly occupied, and tho the cells are not filled at once, yet honey is put in most of them very soon after the super has been given. We have seen a number of cases when the queen deserted the lower apartment to occupy the one above, when the latter was a full story, but with the half-story super this has very rarely happened. Of course, in a very heavy honey crop such occurrences are rare even with the full-story super.

On the other hand, when a super is given to each colony at the opening of the crop it often happens that some of the colonies are unable to occupy the entire space, and a full-story super proves too much of an addition. If the nights are cool, the bees have more difficulty in keeping up the required temperature, and this causes more or less delay in breeding.

But after all we must not be exclusive. Success can certainly be attained even with full-story supers. We know of many practical bee-keepers who use nothing else for extracting. But for our own use we much prefer the super mentioned for the reasons above stated.

As for using a shallow super only 4¼ inches deep for extracting, that is out of the question. This is running to the other extreme, and such supers require altogether too much handling for the harvesting of a large crop of honey.

We have been called too conservative because we hold and practice methods which we inaugurated 25 years or more ago. Our answer to this is that we be believe in progress, but we have harvested large crops always with these methods; we see all the bee-keepers in our vicinity, or the most of them, imitating us because they see us succeed, and we can not help thinking that we are yet on the right track. All we want, all we seek, is practical results with the plainest methods that can be devised. Hamilton Co., Ill.

CONVENTION PROCEEDINGS

Report of the Colorado State Convention.

[Continued from page 102.]

TAXING BEES IN COLORADO.

QUESTION.—Would it not be a help to the inspector to have the county assessor keep a record of the bees in his county?

Mr. Gordon—It is the county inspector's duty to inspect the apiaries of the small bee-keepers. How is he going to find them? If the assessor had a list, he would only need to consult it. I know of one case in which the inspector found out the existence of foul brood in this way.

Mr. Tracy—Were those bees taxt? That was wrong. It is right to give them in.

J. B. Adams—I understood that the assessor of Boulder County had 700 colonies on his list. There are over 18,000 colonies in Boulder County. The assessor doesn't get them on his record, They are not given in.

Pres. Aikin—Bees are taxt in my county.

Mr. Rhodes—I think bees are not subject to taxation. It is a fallacy to call them property. Bees have very different values in the spring and fall. I am opposed to taxing bees, because it is unjust.

Mr. Tracy—Nearly three years ago Rauchfuss Bros. had 400 colonies. Two months after they had 100. Bees can not be taxt with justice to man and man. If I were a money-lender, and a man wanted to borrow $50 with bees as security, I wouldn't give it. I gave just as much attention to my bees at the time I lost them as I did before.

F. Rauchfuss—We expect protection, and can not expect it without taxation. We need to pay the inspectors. It is pretty hard to tax justly, but we should not shrink from a little taxation.

Mr. Bates—Suppose I have $100 worth of bees and $100 worth of hens—am I askt to pay taxes on the poultry?

F. Rauchfuss—Those that make an exclusive business of poultry are taxt.

Mr. Lyon—If the government thinks our industry needs nurture, it is not for us to say nay.

Pres. Aikin—Bees are property *in the hive*. When my house burns down after assessment I have to pay taxes just the same as in anything else.

A resolution by Mr. Rhodes was unanimously carried, as follows:

Resolved, That the Colorado State Bee-Keepers' Association recommend that all honey shipt out be markt with the address of the producer.

INCREASING THE LOCAL DEMAND FOR HONEY.

Pres. Aikin introduced the subject, "How can we increase the demand for honey in our local market and maintain the price?" as follows:

There are no wealthy merchants, and not many wealthy people, in the community where I live. Very few indulge in luxuries. Granulated sugar two or three years ago was 5½ to 6 cents a pound. I reasoned this way: Here is honey at 10 cents a pound; then they can't stand it to buy honey. It was a question not of buying the thing wanted, but of supplying the table. I had to meet that question. Can I do better by shipping out? I lookt at the quotations. The top notch was 7 cents. It would cost me 3 cents to get it to that place, leaving 4 cents for me. Then cans cost. Any way I could figure, I would be sure to have only 2 to 4 cents left if sold on commission. I concluded to put the price down to where it would compete with sugar. I could never make a sale of over 5 or 6 cents in Denver and at other places. I therefore said to the people, I will sell you honey at 6 cents a pound. This is contrary to the general practice of business. But by so doing I get the custom of poor people. I sold them just the honey at that price and charged for the pail. I offered to sell honey thru the stores in my town at the same time. I wholesaled it to them, giving 3 cents to the dealers for four pounds sold. Our trade in extracted honey is doubling every year.

As to maintaining the price, this year a buyer offered me 5½ cents. I said to him, "You can't have it. I will sell it to you for 6 cents, which is cheaper than I am selling it to the people here." He bought it for 6 cents. I was at first afraid to raise the price in the home market for fear I would drive away my customers, but I am now selling it at home for 7 cents a pound.

I first run the honey from the extractor to a tank, then into pails and stack them up till the honey is candied. It does not cost me much more than to put it in cans. When I first started, 3-pound cans of corn-syrup were sold for 15 cents. I can not compete with that, but I have to compete with sugar. As to the fancy trade of honey, that is different. If I were at Denver, I would perhaps employ different tactics.

To-day the dealers in our town are demanding the 15-pound pails of honey instead of the small pails. That shows it is getting to be a staple with them. If we produced ten times as much as we do, and sold to compete with other sweets, it would be easier to sell. It would be like hogs and corn in Iowa—the buyers come and buy at the dooryard because there is a quantity to buy. When we produce in large quantities, and keep it before the people all the time, there is an inducement for the buyer to come around.

I should also say that I trade honey for nearly every last thing I can use. R. C. AIKIN.

Mr. Porter—Locality comes in again. We could not do much of that in Denver. However, there is something in not putting the price too high. I sold some jars to a grocer for 35 cents apiece, and after some time found he had not sold them. He had markt them 50 cents. Another dealer at the same time was selling them for 45 cents. It is not the wealthy people in Denver who buy honey. For example, I recently sold a 5-gallon can to a brickmaker for 8 cents a pound. The wealthy people want fancy packages, and a very little at a time.

H. Rauchfuss—I have had the same experience. To get some people to use honey I had to give them some. Then they bought small glasses. People should always be kept supplied with the kind of honey they are accustomed to. As long as we sell them alfalfa honey they eat it, but when they get cleome or other honey they say they are tired of honey. I know the time when hardly any extracted honey was sold in Denver. Now it is sold in a great number of stores.

Mr. Porter—I sold the secretary of one of the lumber companies a can of sweet clover honey, after having sold him alfalfa honey. The next time I saw him he said he was getting tired of honey. If we get customers educated to alfalfa honey, we should never change. There is a trade that prefers the strong honey.

H. Rauchfuss—The Jews prefer the dark and strong honey.

Mr. Rhodes—I don't believe we ought to ship much honey out of Colorado. I produced four or five tons of honey in the early days of bee-keeping. One of the merchants have ordered two carloads of California honey to run us out. I followed that right up till I re-establisht my trade. I never saw a vessel that exhibited honey better than a stone jar. Extracted honey poured into a stone jar has something very attractive about it. I sold only one day in the week, but could have sold all the time. Six cents a pound at home, without the package, is a good industry. A party in town selling extracted honey to the stores puts in a show-case with it, and guarantees it. Retailers would stand by us if we would get to them in that way.

Pres. Aikin—That party keeps the goods on hand all the time. That is a strong point. If your grocer runs out of sugar and coffee a few times, you are going to patronize some other grocer.

SELLING CANDIED HONEY.

Mr. Root—Bee-journals have not done their duty in recommending the sale of candied honey. It is suitable for men with whiskered mouths, and handier to give to children. I don't know any reason why store-keepers shouldn't sell candied honey if they could know it was good bee-honey.

Mr. Gordon—Will adulterated honey candy as pure honey will?

Mr. Porter—I have samples of that honey, that was referred to as sold in the stores, that show no signs of candying. One of them shows a few little cubical crystals near the top. If we could put up honey as Mr. Aikin does, we could down that kind of honey. The grocers are learning that pure honey *will* candy. Extracted clover honey will not candy as quickly as extracted alfalfa honey.

Mr. Root—I tried an experiment with adulterated honey. I put up one sample containing ⅓ glucose, one ⅔ glucose, one ¾ glucose, and one of pure honey, and have kept them four years. The pure sample candied solid. The mixtures clouded and made flakes. The glucose seemed to separate from the honey. The glucose and honey, therefore, will candy in time, but it candies in a peculiar way, so that it is readily distinguishable from the candying of pure honey. But sugar syrup will prevent candying longer than anything else.

Mr. Porter—This firm claims to have a process for delaying granulation. They would exchange the candied honey of others found in the stores for their own. This was about five years ago.

Mr. Rhodes—They must have something new, because their honey now is in better condition.

Mr. Root—The fact that the honey is *solid* is absolute evidence that it is pure. One of our workmen prefers candied honey to liquid honey.

Mr. Rhodes—Candied honey is good because the flavor is not driven off by heat.

H. Rauchfuss—I have a tank for liquefying by dry heat, which works better in that respect than by setting the cans in water. It holds six cans, and has a cover. It is double-walled, with water between the walls. The delicate flavor that alfalfa honey has is easily driven off. In selling to candy factories, I have learned they have a way of keeping the flavor, in making it into candy, but do not know what it is.

Pres. Aikin—I have some samples kept for several years. They remained candied solid for two years. One is now part liquid and part granules, and is much darker.

H. Rauchfuss—I have some samples kept a number of years. One of sunflower honey is solid yet. A sample of cleome candied honey turned liquid, then granulated, then turned liquid again.

J. B. Adams—I had some packages at the World's Fair that I have yet. One is part liquid and part candied, and is darker. Another is now in layers of granulated and liquid honey. Another is of different colors.

Pres. Aikin—I have a sample of white clover honey 15 years old. It is entirely liquid now, and as black as sorghum, tho at first it was fair honey.

Mr. Porter—Some honey I had distributed to stores granulated and came back. I put it down cellar. I lookt at it some time ago, and found half of the jars as clear as crystal, and as nice as could be, while the others were candied solid.

H. Rauchfuss—I sold some honey in a can that was poured into jars. One jar remained liquid, and the rest is solid.

Mr. Rhodes—That shuts out the explanation that one colony would gather one kind of honey and another another. But I believe light has some effect.

Mr. Root—I have thought that moisture, or stirring, might have something to do with it.

J. B. Adams—Every one of my packages is glass-stoppered and sealed.

H. Rauchfuss—Some of my 60-pound cans of honey candied and some did not. They are sealed yet.

Mr. Gordon—Some honey sealed since 1889 with a rubber band did not candy.

Mr. Hackney—Have these packages been exposed to the heat? Some days in the summer are quite hot.

J. B. Adams—I doubt if any of my packages were influenced in that way. They were in a plastered northeast back room.

H. Rauchfuss—Mine were in just such a room, where they candied and liquefied.

Mr. Porter—Usually froth rises when candied honey is melted. This year I liquefied a great deal, and not a single can had any froth on, but they were as clear as could be. It was not alfalfa honey alone that acted so.

Mr. Brock—I observed no difference this year. The froth was there as usual.

H. Rauchfuss—I had the same experience as Mr. Porter. I had always thought it was the air-bulbs encased in extracted honey that caused the froth.

Mr. Porter—I restore the froth to honey, when I have it, by putting it in a separate can, setting this in water, with a very little water sprinkled on the froth itself, heating and straining thru cheese-cloth. The water dissolves the air-bubbles, and the result is just as salable honey as any. The honey this year was no thicker than usual.

H. Rauchfuss—The late honey was thin this year.

[Continued next week.]

THE AFTERTHOUGHT

The "Old Reliable" seen thru New and Unreliable Glasses.

By **E. E. HASTY**, Richards, Ohio.

MR. WHITNEY'S APIARY AND PLANS.

The year opens with a very pretty apiary picture; and we won't blame Comrade Whitney if he feels a trifle proud of it. Those slender and tall young elms to shade every hive part of the time, and no hive all the time, realize a definite plan of shading, whether the plan is entirely sound or not. The big hives and close spacing, and especially the diagonal placing, give the apiary a decided individuality. That's what we like (in pictures), notwithstanding the fact that the dead-earnest sort of bee-beginners might want to know which way is the best way, and then to have all the apiaries thus. And he gave his bees hand-sled rides in the summer time—my, my! I hardly expect that kink to prove very catching, altho quite likely he's right that on a smooth lawn the hand-sled is one of the gentlest of vehicles. Most of the brethren would prefer the made-a-purpose barrow, that both picks the hive up and gently wheels it where it wants to go. And quite a good few of the brethren are blest, like myself, with hives that manifest a quiet and non-perambulating disposition.

KEEPING BEES ON THE ROOF.

Mr. Weber's apiary on the roof, page 17, shows one little invention which is important. Of course, such apiaries are crowded, and boards between adjacent hives to keep bees from mixing are a natural resource—here we see *two* boards for each narrow space, which very greatly increases the efficiency. If the keeper is careful and prompt enough to insure every parent colony a queen at swarming (even if he has to buy a queen), there is no other peremptory necessity for more space than can be had on the roof of a large building. Of course, there are many minor bothers, as well as some minor benefits, in such a position. For instance, bees are not attacking passers-by as they would be if down on the ground; and, per contra (out of sight out or mind), passers-by are not attacking the apiarist for keeping bees where he ought not.

MR. REHN'S APIARY AND MANAGEMENT.

Plenty of individualities to ask questions about in the apiary of Frank L. Rehn, page 33. He sets his hives high, and I wonder how the underneath blocks are managed to keep the whole edifice from being badly a-wabble. And why does he use such a promising growth of painted posts all scattered round? I *guess* he's got a whopping big sunshade to mount on a post and shade the operator, and move to the next post when he moves; if so, I glory in his—lack of spunk. (He's a freshman and must be hazed a little. Hazing becometh not an editor; but it's not yet abolisht on the staff—is it Dr. Miller?) From 6 to 26 colonies is a good record for a beginner's first year. I feel specially interested in seeing his success in keeping nuclei shut up five days. He doesn't say anything about filling part of one comb with water, which I should think important in such long imprisonment.

SOME OF OLD GRIMES' IDEAS.

And so Old Grimes' old blue coat of a 4¼x4¼ section is bound to be a new and taking fashion if he only wears it long enough. I think there are several of us that will spoil his game by walking right on in the procession ourselves. But as to the Grimes plan of booming for big and early swarms, and harvesting all the comb honey from them, and all the extracted from the consolidated remnants, I'll wait till the procession gets kind o' long, and then quietly drop in behind—half a dozen suspicions and counter prejudices in the way of joining right in now. Page 3.

TWO QUEENS IN SAME BROOD-CHAMBER.

That is an eccentric item which R. R. Stokesberry contributes on page 14. A queen being superseded *in a 14-frame hive*, two young queens became fertile and began life on opposite sides of the unusually large chamber. A strain of bees that would always do this (and stay so) our English friends would pay a big price for—save them lots of hive "carpenteering."

FACING COLONIES TWO WAYS.

That Canadian item, page 10, is correct. A few colonies facing west in an apiary generally faced east will gain bees largely during winter flights at the expense of the east-looking colonies.

PERHAPS A "HASTY" CONCLUSION.

I e'enymost blush for my country that Mr. Secor should not be sharp enough to see thru that can of Hymettus honey, page 6. Not quite the identical thing as the horsemint honey nicely canned for the mining regions, and labeled "California Sage Honey," but very like, I suspect.

THE APICULTURAL "TEN COMMANDMENTS."

Ten bee-keeping sins are held up to our view on page 42; and of course the apicultural ten commandments would be the "thou shalt nots" of these ten. This critic kicks—won't accept them short of opening the Ark and seeing them on the stone tables. Number 4 is not a sin; and 7, 8 and 9 are quite debatable. He moves the following substitute:

1. Thou shalt have no other craft *before* bees.
2. Thou shalt not bow down to other crafts, by calling thine own craft, "*Fussing* with bees."
3. Thou shalt not say naughty words when thy bees salute thee, neither when they cross thine expectations, neither when they clean out thy nuclei.
4. Remember and have a Sabbath corner in thy soul for *some* other things besides bees. Thou mayest have bees on the brain, but not on the whole of thy brain.
5. Honor the bee-book, which is as thy father, and the bee-paper, which is as thy mother. Whoso curseth father and mother let him die the death.
6. Thou shalt not kill—neither thyself by overmuch worriment, neither thy bees by overmuch neglect in the fall, neither thy Gentile neighbor by overmuch bee-talk.
7. Thou shalt not commit adulteration—neither at the glucose-barrel; neither shalt thou accomplish a similar thing by extracting thine honey too soon.
8. Thou shalt not steal thy neighbor's cash by selling him poor honey. Thy honey shall be pure, and clean, and ripe.
9. Thou shalt not bear false witness in favor of thine hobby—for the same is false witness against thy neighbor. Behold he will try to ride thine hobby, and fall bleeding by the wayside.
10. Thou shalt not covet for an out-apiary thy neighbor's range; neither shalt thine eye be evil toward thy Gentile neighbor's few hives; neither shalt thou covet the honey thy bees need for food. Thine heart shalt be large toward every creature; for, behold, the same God which made the insect and the angel, made thee.

DOOLITTLE'S BURR-COMBS.

As to the problem on page 37, I rather guess Mr. Doolittle did make his burr-combs count him in $1.20 per colony; but I doubt whether different bees on a different occasion would always show the same result. It's "sartin sure" that the burr-combs didn't *gather* an ounce of the honey; and *sometimes* bees will "get there," and put there all the honey they have to spare, without any ladders to climb on.

DOOLITTLE'S DOZEN "LITTLE PEWS."

Twelve little pews, with 12 little Methodist "classes" of new ideas on section slips, to be called out for "love feast" one each month! That's the way Doolittle "doos" it. How many "doo" want to be Doolittles enough to "doo" that *much?* Page 35.

WINTERING BEES IN A LOW TEMPERATURE.

An interesting fact (but a dangerous one to run at large) is S. N. Black's success in wintering 80 colonies at 28 degrees, Fahr. If stores were always the very best, and bees always the very healthiest, it might perhaps be done right straight along. Page 36.

SHOOTING THE CANDIED-HONEY IDEA.

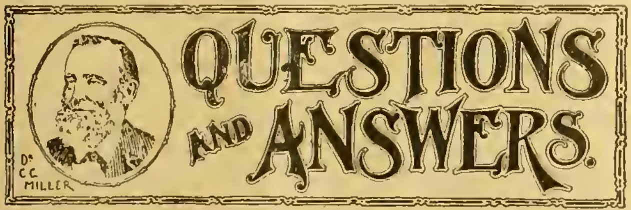
And so Mr. Aikin helps the public idea to shoot toward candied honey by not letting it have any chance to shoot any other way. I see. It's true that people like new ideas, when informed that they are new; and saying, "This's a new plan; we let you melt your own honey, and buy it so much cheaper," is quite likely to go to the spot. Page 18.

HONEY THE THING FOR CHILDREN.

Prof. Eaton, on page 22, says a nobly forcible thing when he tells how almost all people try to repress children's appetite for sweets—right in the face of the fact that more than half the solid contents of mother's milk is sugar. Who will manage it to inform the Creator that he didn't know what children need?

WHAT ABOUT EXTRACTING-COMBS?

Page 26 is revolutionary enough to raise the whole big question, Why have extracting-combs cleaned up in the fall at all? Is it not better in almost every respect to let them stay sticky just as they are? What say about it, brethren? I have done that way to some extent, and the worst trouble I met was that they drip a good deal in certain turns of weather, and make a dauby mess on the floor, and waste some pounds of good honey that might have gone to the bees.



CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Wintering Bees in a Cave.

I put two colonies into a cave which I dug last fall. It has double doors, with a 6-inch pipe ventilator above, with two joints so as to keep snow out of the pipe. The bottom ventilator is 6x6 inches, and 40 feet long, with screen to keep the mice out. The roof is about two feet of dirt and manure mixt. The temperature is 38° to 40° above zero. I would like to know if this cave is all right to keep bees in. I have two colonies outdoors, with outside cases and chaff between. NEW YORK.

ANSWER.—Very likely it is all right, but one cannot be certain without knowing just how the bees appear. A temperature of 38° to 40° seems rather low, but thermometers differ so much that it may be that your thermometer in the place in which you put it is all right.

◆

Growing the Basswoods or Lindens.

In the book, "Bees and Honey," I have read that basswood is easily propagated from cuttings. Do you know of any one having succeeded in this way? If so, what time of year must it be done, and what kind of soil is best in which to put them? In digging up basswoods for transplanting, need one be pretty careful about cutting off the roots, else we kill the tree from this cause? My land is naturally adapted to basswood, and there is plenty of it all about here, but it is going fast. NEW YORK.

ANSWER.—I have no recollection of any reports from those who had done much in the way of raising basswoods from cuttings, the usnal way being to dig up young seedlings that are growing wild. If you search in the region where basswood is plenty, you will probably find abundance of young trees. They may be raised from seed, but the seed seems to lie in the earth a year or two before coming up.

Young lindens or basswoods may be transplanted with less care than almost any other tree. Of course, the more roots the better, but a very small amount of roots will do.

◆

Italianizing.

I started with one box-hive of bees 3 years ago. The next year I bought 5 dovetail hives, and in spring I had two nice swarms which I successfully hived. Last year I increast to 11, which are in good condition now. I lost one swarm in the blizzard—they froze, for they had honey left. It was over 20° below zero here, and I have now, and had, my bees on the summer stands without being packt. In June I put a select tested queen in one, and they went into winter as thorobred Italians. Next spriug I would like to Italianize all. Your plan of doing so by self-swarming seems to be very simple, but I would like to try the dividing, and wanted to Italianize beforehand, and in this way:

I expected to take the brood-frames that have the queen-cells on them, and put them in the Italian hive; and after the bees have capt them over return them to their old hives, and kill the black queen. Will uot that work? When, or before, the second queen hatches I expect to divide the colonies and thus double the number. VIRGINIA.

ANSWER.—If you take from any of your colonies a frame with queeu-cells and eggs or larvæ in the cells, giving these to the Italian bees would produce only black queens. If you take the Italian queen away, putting her in a nucleus, the queens reared by the queeuless colony will be Italian.

◆

Frozen Moisture in the Hive.

On looking at my bees, I see that in two of the hives, near the entrance, small icicles have formed from the bottom of the frames to the bottom-board. I suppose this is from the moisture of the bees coudensing and freezing near the entrance. Will this hurt them? If so, how can I remedy it? They are packt in hay and leaves about 6 inches on each side. NEW YORK.

ANSWER.—A small amount of frozen moisture is not likely to do any great harm. Perhaps nothing need be done now, but it may be well to consider whether a larger entrance another wiuter would not be desirable? This is not saying that it is desirable; only suggesting it in case the entrance is too contracted.

◆

How Arrange the Extracting-Frames.

In arranging extracting-frames, is it best to have them placed above the brood-frames, so that the bee-space is continuous from the bottom to the top of the hive, or should they be placed so that the space between them comes over the brood-frames, similar to breaking joints? It can of course be easily regulated by the follower. UTAH.

ANSWER.—With proper spacing between frames, and proper distance between top-bars and bottom-bars (about ¼-inch in each case) it probably makes no difference which way. If spaces are larger, and if top-bars are thin, there would be danger of some building up of combs if spaces above corresponded with those below, and if you are as neat about your work at the hive as you are about your penmanship, you woundn't like that.

◆

Bees Dying—When to Remove Honey.

1. I am a beginner with bees. I purchast 5 colonies last fall in box-hives, aud they are dying from some cause or other. As they were not "robbed" last year, the hives are full of honey.

2. When is a good time to "rob" bees? MISSOURI.

ANSWERS.—1. It is impossible to tell why bees die, with no other information than the fact that they die. Very often beginners are alarmed at bees dying in winter when everything is all right, for the general rule is that a great many bees die thruout the winter. If ouly a quart or two have died in a strong colony there is no cause for alarm, and several quarts may die in such a colony before warm weather comes.

2. It will be worth a great deal to you to get a good text-book on bees, for in that you will find the present question more fully and satisfactorily answered than can well be the case in this department. In general terms it may be said that there is no special time by the calendar when honey should be taken, but it should be taken as soon as all, or nearly all, is sealed in the super, if it is comb. If extracted, it may be taken whenever it is sufficiently ripe—that is, when it is sealed or nearly so, altho many think it best not to extract till the close of the season.

◆

A New Size Honey-Section.

I desire your opinion of our new honey-section. We have a whole lot of section-cases for the 8-frame hive, also a whole lot of fences, slats, etc., for the Ideal sections, 3⅝x5x1½, but I don't think that section is just the thing, and never will be very popular. The 4x5x1⅜ section is the very best section I ever have used or seen, but it cannot be used in the 8-frame hive section-case to good advantage, unless crosswise the case, and that doesn't seem to be just the thing, either; so we have gotten up and used with much pleasure a section that exactly fills the 8-frame case, both in length and width, they being of such size that 7 rows, 4 to the row, just fill the case. The sections are plain, and are supposed to be used with section-holders and fences, their size being 4⅜x5x1¼. What do you say? NEW YORK.

ANSWER.—This matter is one that depends so much upon circumstances that no hard and fast rule can be made for all. A question that you can best answer for yourself is, Do they suit *your* market? Trial must determine. Other things being equal, the section that you can use with the least inconvenience and with the least change of your present fixtures is the one for you. In this respect you have no doubt chosen wisely. A strong point in the eyes of many customers is the fact that a 4⅜x5x1¼ section presents a large surface when laid on a plate. It *looks* much.

AMERICAN BEE JOURNAL.
ESTABLISHT IN 1861 OLDEST BEE-PAPER IN AMERICA
DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS.

PUBLISHT WEEKLY BY
GEORGE W. YORK & COMPANY,
118 Michigan Street, Chicago, Ill.

[Entered at the Post-Office at Chicago as Second-Class Mail-Matter.]

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IMPORTANT NOTICES:

The Subscription Price of this journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "Dec00" on your label shows that it is paid to the end of December, 1900.

Subscription Receipts.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows you that the money has been received and duly credited.

Advertising Rates will be given upon application.

VOL. 40. FEBRUARY 22, 1900. NO. 8

EDITORIAL COMMENTS

NOTE—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

"Are We Brethren?" is the inquiry of the American Bee-Keeper in reply to the request to name an American bee-keeper who does not with the Australian say: "I'd like to have my crop of honey increast as much as possible, but I don't care to have the entire output increast in proportion." Editor Hill hopes the younger generation now living may see the present annual production of honey in the United States increast five fold. No pessimist, he. He thinks such an increase is necessary to awaken an appreciation of the great possibilities of our industry, and says:

> "America's most crying need is, more honey and united action in extending home consumption; and this united action can be secured only thru individual effort prompted by a fraternal, *unselfish* interest in the general welfare of our pursuit."

We Be Brethren.—In not many callings is there found a more brotherly spirit than among bee-keepers. It is pleasant to find that a wide expanse of ocean does not make any less this kindly feeling, and one warms toward British bee-keepers when reading the following appreciative words regarding one of our number, from W. Loveday, in the British Bee Journal:

> "One whom we must place in the front rank of never-tiring helpers in our cause must be thankt now if we would ask him also to accept the compliments of the season with the next issue of the British Bee Journal when it reaches him. I refer to Mr. G. M. Doolittle, from whom we have learned so much thru his regular contributions to the bee-literature of his country, and which is handed on to us in the pages of the British Bee Journal. I am afraid that our American friend must burn not only a good deal of midnight oil, but exhaust a good deal of the sap of life, too, in his endeavors to assist others."

National Bee-Keepers' Union's Final Report.—We have received the final statement sent out by General Manager Newman, in which he gives the result of the vote by the Union on the question of amalgamation. It shows that 98 ballots were cast, of which 91 were in favor of the new Constitution recently adopted also by the United States Bee-Keepers' Association, which voted 143 to 4 in favor of it. Both societies having thus almost unanimously adopted the same Constitution, they are now *one*. If "in union there is strength," the amalgamated society ought to be very strong, and should do even better work than both could do singly.

The cash balance forwarded by Mr. Newman to General Manager Secor was $173.95—a handsome addition to the fund already in the amalgamated society's treasury. There will now be a united membership of about 500. Why not double it this year?

As a result of the recent voting by both organizations, the officiary of the resulting association is as follows:

PRESIDENT—Ernest R. Root.
VICE-PRESIDENT—G. M. Doolittle.
SECRETARY—Dr. A. B. Mason.
GENERAL MANAGER AND TREASURER.—Eugene Secor.
BOARD OF DIRECTORS—E. Whitcomb, W. Z. Hutchinson and A. I. Root, until 1901; J. M. Hambaugh, Dr. C. C. Miller and C. P. Dadant, until 1902; Thomas G. Newman, G. M. Doolittle and W. F. Marks, until 1903; and Ernest R. Root, P. H. Elwood and Rev. E. T. Abbott, until 1904.

Mr. Newman closed his final statement with these paragraphs, which show what a well-earned and glorious record the National Bee-Keepers' Union made for itself during its 15 years' existence:

> I desire to thank my friends for their condolence in my affliction and present loss of eyesight, and, upon retiring from the management of the Union, would offer congratulations to all the members upon the efficient work done by the Union during its existence, and submit the following statistics for future reference:
>
> Over 200 appeals have been made to the Union for protection from annoyance by envious and quarrelsome neighbors. About one-half of these cases have been settled or dropt as soon as it was known that the apiarists were members of the National Bee-Keepers' Union. Many of the remaining cases were settled as soon as the opposing attorneys had read the points of law furnisht by the Union. Others were cases growing out of attempting to enfore ordinances past by cities to declare bee-keeping a nuisance, some of which were carried up to the Supreme Court; but invariably the result was a victory for the Union when cases were tried upon their merits. In some few cases bee-keepers have been put into prison on technicalities, only to be releast when defended by the attorneys for the Union, who demanded their rights guaranteed by the Constitution of the United States of America.
>
> The Union has a proud record, and gives to the new amalgamated association a banner unsullied, with victory inscribed upon it, and I hope that it may wave in triumph over the new association for many generations to come.
>
> THOMAS G. NEWMAN.

Wisconsin Convention Notes.—As intimated in our last number, we will endeavor this week to give a few comments on the convention of bee-keepers held in Madison, Feb. 7 and 8.

We arrived the evening of the 6th, and were met at the station by Secretary France, whom we had not seen for four years. It is wonderful what a preserving climate they have in Wisconsin. Mr. France really lookt younger than he did in 1896. The same may also be said of Pres. Wilcox, who seemed not a day older than when we used to see him so frequently in charge of Wisconsin's apiarian exhibit at the World's Fair here in Chicago in 1893—and that is nearly seven years ago. But, then, we really believe Mrs. Wilcox takes such excellent care of him that while he may live long he'll not likely grow old. Mrs. Wilcox was at the convention, and we decided, after seeing her and talking with her, that, like a good many of the rest of us, Mr. Wilcox is greatly indebted to a good wife. (Dr. Miller will surely say "amen" to this.)

For perhaps six or eight years we have had a desire to meet Mrs. W. J. Pickard—the lady bee-keeper of Wisconsin who has won the right to be called the "first lady" of the State, if not of the United States, when it comes to honey-production. We believe her crops have amounted to something like fifty or sixty thousand pounds of extracted honey in a single season. And the daughter, Miss Ada, who was also present, is following closely in her mother's footsteps, for in 1898 she alone, in an out-apiary of 100 colonies, harvested 16,000 pounds of extracted honey! How is that for a young lady bee-keeper?

Then there is Mr. Pickard—well, he gives all honor to his wife and daughter, as well he may. He says *they* are the bee-keepers—*he* only *sells* the honey after it is secured, and—we hardly think he pockets *all* the proceeds, for if two such charming and capable women should "get after him," he'd simply *have to* "shell out," as the boys would say.

There were other extensive bee-keepers present, among them Messrs. G. W. and A. G. Wilson, Jacob Huffman, C. A. Hatch, Mr. Ballou, B. T. Davenport, J. W. Van Allen—and many more whose names we might mention.

Mr. France, the newly-elected president, and one of the largest bee-keepers, as is well known, is the very efficient and popular inspector of apiaries for Wisconsin, and in his rounds thru the State has done wonders in the way of driving out the curse of foul brood. And in almost every instance the bee-keepers have done all they could to help him in his arduous work.

At least one very important thing was done by this convention. It was decided that *every* member should become a member of the National Bee-Keepers' Association. It was our privilege, upon invitation, to address the convention upon the history and work of the two national bee-keepers' organizations that just lately have been united, and we urged that the Wisconsin Association be the *first* local organization to become members of the amalgamated society.

So we were greatly pleased when the necessary action was taken to carry out the new provision in the recently adopted constitution of the National Bee-Keepers' Association, which says that when any local bee-keepers' society will join in a body, they shall be allowed to come in at 50 cents per member, providing the dues of the local organization are not less than $1.00. In the case of the Wisconsin Association, it will add about 30 new members to the National, as perhaps 10 of them were already members of both the local and the national societies. In all probability but few of the 30 new ones would have joined the National at $1.00 each, while by all going in at 50 cents each, there is a gain in money for the treasury, as well as a gain in membership—both very desirable objects, particularly the latter.

Suppose when Mr. Abbott attends the National Pure Food Congress in Washington, D. C., March 7, he could say he represents a national organization of bee-keepers one thousand or two thousand strong. Wouldn't that carry some extra weight with it?

And suppose when some jealous neighbor gets to fussing because a bee-keeper near him is making a little profit out of bees, and forthwith determines to try to compel said bee-keeper "to get a move on him" and his bees don't you think that when such bee-keeper lets Mr. Jealous Neighbor know that he is a member of an organization having a thousand or more able-bodied bee-keepers in it, and that all in said organization will aid in defending him in his rights to keep bees—don't you think that Mr. J. Neighbor will think several times before he tackles that strong "colony" of bee-keepers? We think he will. And these are some of the reasons why we believe there ought to be a *large* membership in the National Bee-Keepers' Association. Numbers mean much, whether in a hive during a honey-flow, or in any organization that means business.

Let's see, we're getting off our subject a trifle, aren't we? But, then, there were so many good things at that Wisconsin convention we can't mention them all now. The report, to be publisht later, will likely give the most important matters in a more or less concentrated form.

Mr. W. Z. Hutchinson was present beginning with the first evening session. He was unanimously elected an honorary member. We had been thus favored when attending the meeting four years before.

We might add that Mr. August Weiss had with him a splendid display of his excellent bee-keepers' supplies; also Mr. McCartney was there with his combined foundation-fastener and section-press. There were other things on exhibition, which we have forgotten, but likely the full report will mention them.

Reform Spelling Voted Down is the latest announcement in Gleanings in Bee-Culture. In making this announcement there is an apparent longing on the part of Editor Root to help in doing what he can not but see is really a good work, and as a closing word he well says this, albeit with a hint of sadness in his words:

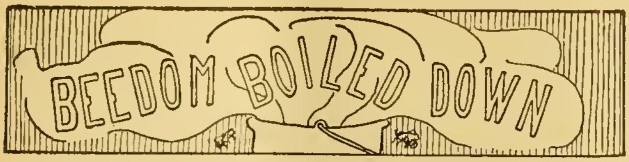
> "But in giving up for the present the proposed spellings, I have a feeling that, if all reforms were treated in a like manner, very little would be accomplisht from century to century. We are still in favor of the shorter spelling, but do not wish to go against the exprest wishes of our subscribers."

Previously to this he says: "We have for several years used, without offense to any one, words such as *catalog* for *catalogue*; *program* for *programme*, etc. There are several other shorter forms, but they have been incorporated so slowly that no one has noticed them; and whatever change we make in the future will be made on the same plan."

Which goes to show that when it is a case of pure prejudice it is not well to call for votes. Had Gleanings in Bee-Culture called for votes as to the spelling of catalog, doubtless negatives would not have been wanting, since *clipt* for *clipped* is no more violent a change than *catalog* for *catalogue*, and if as quietly introduced would probably have been no more noticed.

Honey-Paste for the Hands.—Here is a recipe for an old-fashioned honey-paste for the hands, taken from a very old book on toilet recipes:

> Take honey, 2½ ounces; the yolks of 2 eggs; almond oil, 3 ounces; powdered orris root, 1½ ounces; and a quarter of an ounce of any perfume preferred. Mix the yolks of the eggs and the honey together first, then add the oil very gradually, after having previously united the perfume to the oil; lastly, beat in the orris powder. First wash the hands thoroly, and dry them with a soft towel, then anoint them with the above paste, rubbing it well into the skin, and, lastly, cover the hands with loose doeskin gloves, with the palms cut out for ventilation.



Breeding for Color has a word spoken in its defense by W. H. Pridgen, in the American Bee-Keeper. He rightfully holds that color can not be ignored, for whatever traits may be desirable to breed for, color will always be a distinguishing mark by which one can judge to some extent whether such desirable traits are present.

Dark Colors and Cross Bees.—According to W. H. Pridgen, in the Bee-Keepers' Review, dark objects do not irritate bees, but when they are irritated they are more likely to attack dark objects. He has seen bees in numbers attacking a dark handkerchief hanging out of the pocket of a man drest in light clothes; but the bees were previously angered.

A Good Record.—I started in the spring with 60 colonies strong and 20 weak. I increast to 150, and have sold $715 worth of extracted honey and 150 pounds of wax. My 70 colonies of bees at $3.00 net brought $210; 150 pounds of wax at 23 cents, $34.50; extracted honey, $715. Total, $959.50. Have you a better report than this from 80 colonies?—THOS. M. SKELTON, of California, in Gleanings.

The Pickard Bee-Brush is thus described by Ada L. Pickard, in the Bee-Keepers' Review: Take a piece of broom-handle about 18 inches long and saw a slot in the end of the piece, lengthwise, about six inches long. Take some rope and cut it into pieces eight inches long, then unravel the pieces and draw the middle of the pieces down the slot in the handle until the slot is full, thus making a brush on each side. Fasten by nailing the handle ends together, or by wrapping wire around. This brush is very durable, soft, and pliable, and will not injure the bees. It may be washt when it becomes sticky with honey.

The New York Bee-Disease or Black Brood is what Dr. Howard has named the new disease that is making havoc among New York bees. The editor of Gleanings in Bee-Culture says:

"To relieve the suspense of some, I will simply say in advance that the Doctor finds this to be an entirely new disease."

But what relief, will our good friend tell us, is there in knowing that instead of foul brood about whose cure we are pretty well informed, we have to deal with black brood as to whose cure we are ignorant, when according to all reports so far it seems to be about as fatal as foul brood?

Bees in a City Drawing-Room.—In the elegant London home of Col. Baden-Powell a peculiarity in the drawing-room is the apiary. Two large straw bee-hives, with glass sides, stand on ornamental pedestals close to a large organ which occupies one wall of the large room which overlooks Hyde Park. The bees escape thru a wide pipe which leads out of the window. Wooden models of various objects, such as, for example, a bicycle, are placed by Miss Baden-Powell in the hives. Over these models the bees build their honey-comb, following the lines with delicate accuracy. The honey is drained from these beautiful specimens of waxen architecture, which are exhibited under glass cases.—Chicago Record.

Old Stagers and Cross Bees.—G. M. Doolittle, speaking of the difficulty some have in learning that quiet movements are important in getting along with bees, says in the American Bee-Keeper:

"Indeed, while visiting an apiary, as a body of bee-men, at the adjournment of a national bee-convention some few years ago, I saw nearly one-third of those bee-men (?) take off their hats and go to striking the air in a most desperate fashion, because some bees seemed to want a 'business association' with them. It was very ludicrous indeed to see ten or more 'old stagers' acting in that way."

So difficult is it to believe that one with a moderate amount of familiarity with bees should be found battling cross bees with his hat that one can not help wondering in what sense Mr. Doolittle uses the term "old stagers."

What to Do with Candied Comb Honey, the combs being old and dark, is thus answered by Editor Root in Gleanings in Bee-Culture:

"The best use you can make of these combs filled with honey candied solid is to put them into the solar wax-extractor next summer. The honey and wax will both be reduced to the liquid form—the former being separated off in a cake by itself. While the honey is not of as good quality as that which has been taken with the centrifugal extractor, yet it will do very well. If there is another and better way of treating such combs, I should be glad to be informed of it. Bees will sometimes take candied honey out of the combs and use it; but more often they will drop the granules on the bottom-board; and when warm weather sets in, these granules will be shoved out of the entrance. After the first rain these will be wet down, resulting in more or less robbing; so that I recommend that combs containing candied honey be treated as I have explained."

Stung to Death by Bees is the heading of an item in Gleanings in Bee-Culture, copying from a Cleveland daily paper the following, which we referred to some time ago in these columns:

"John Carson, a farmer, aged 65, of Newton Falls, was stung to death by bees. Carson desired to work in his apiary, and, to quiet the bees, burned sulphur. This only enraged the bees, however, and they swarmed over him, stinging him in hundreds of places. He made his way to the house, where he fell to the floor. Several hours later he died."

Editor Root comments that the man lost his life by not knowing enough to let bees alone when they ought not to be handled, and using the unheard-of method of trying to quiet them with sulphur. He might also have suggested that it is also within the range of possibilities that the stings alone were not the cause of death. Is it a sure thing that burning sulphur will always or ever enrage bees?

Sticks Instead of Wires in Foundation.—Some confusion seems to have occurred in the Australian Bee-Bulletin with regard to the splints used by Dr. Miller instead of wires (already described in this journal), as compared with what is used by the editor of the Bulletin. The latter is a middle bar running horizontally, of which Editor Tipper says:

"The sticks we use are the same width and thickness as the bottom-bar, length to fit between the two end-bars, placing it horizontal in the middle of the frame. A bit of wax fixes it, and the bees do the rest. From the experience of the past season we will not go back to wires again. There is far less trouble in placing them in, the combs are firm and strong, and no stretching of wire and comb breaking as under the old system, when extracting. We use Langstroth frames."

Starting an Out-Apiary.—Ada L. Pickard tells in the Bee-Keepers' Review how she manages it. A location is sought with a flowing stream and desirable pasturage, if possible placing the hives on an eastern slope with protection north and west from spring winds, and only rolling enough for pasturage. A written contract is made with the owner of the ground, stipulating the size of ground, price, and term of years. Then she encloses the ground with a good barb-wire fence of five wires, and builds a bee-tight honey-house about 12x16 feet. The bees are then brought and left permanently, being wintered in a partly underground cave. A bushel or two of unslackt lime is scattered over the floor and walls to make the air sweet.

A Caution to Purchasers of Bees is given by Editor Simmins, in Bee-Chat. From time to time he has reports from those who have bought not only bees, but foul brood as well. In some cases those who sold may have been ignorant that foul brood was present, but when a large number of partly diseased colonies are crowded together on a long journey, they generate the most fatal temperature for propagating the malady, and the development proceeds with alarming rapidity.

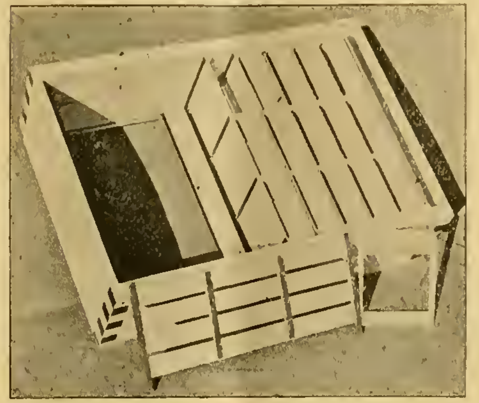
Honey Cough-Medicine.—The Farm Journal gives the following:

Boil an ounce of flaxseed in a pint of water, strain it, add an ounce of rock candy, some honey, and the juice of three lemons, and boil again. Result: A nice, old-fashioned cough medicine. Drink as hot as you can bear it just as you are getting in bed, and cover up warm.

Root's Column

So many of our customers who prefer the 8-frame dovetailed hive have wanted to use the 4x5x1⅜ inch plain sections on these hives, that we have devised this style of super to meet this demand. We listed it for the first time in our catalog last year. This form of super has been used successfully by Lewis J. Whitney, of Mapleton, Utah. He has produced as large crops of fine 4x5 honey as one can find anywhere on the market, and anyone desiring to raise 4x5 honey on 8-frame hives cannot do better than to use this super; but, if you want to use the 4x5 sections on a regular 10-frame, dovetailed hive, you can order our regular Danz. super, such as is used on the Danz. hive, described on this page last week. The price of the L super is the same as all of our other regular 8-frame dovetailed supers.

The L Super.



For 4x5 plain sections, 8-frame size only.

Devised for those who want 4x5 sections on the 8-frame hive.

We are pioneers in the manufacture of modern fixtures for plain sections.

If you want to get them right, send to us or our branch offices and agencies.

What Others Say of Root's Plain Sections and Fences:

The plain section is far ahead of the old beeway section, and I would not return to the plain separator for any money. Every customer to whom I sell honey remarks, "How fine the honey in the plain section does look!" I have nothing but praise for my honey wherever I have offered it for sale this winter.
Cuba, Kan., Dec. 23, 1898. Wm. H. Eagerty.

We received four or five well-filled cases of basswood honey in the new sections; and to say that they were nice would be putting it lightly. It was a real pleasure to open those crates of honey and note the difference between them and the old-style section in regard to freedom from propolis, and consequent ease of cleaning.
Elsie, Mich., Jan. 7, 1899. I. A. Wool.

I might say here that I gave the no-beeway sections, 4¼x4¼, a trial this season, and I am well pleased with them. I used about 1,200 of them alongside of the open-end or slotted section, 4¼x4¼x1⅝, with plain separators. This winter I am changing all of my supers to no-beeway. I find that I can get half to one cent more for no-beeway in the Toronto and Kingston markets. C. E. Taylor.
Harrowsmith, Ont., Dec. 28, 1898.

In regard to those fences bought of you last year for 100 hives, it is one of the best improvements since I began the bee-business, 50 years ago. Last year I had the best comb honey I ever raised. I think bees will commence on sections quicker, work the outsides of the crates just as well in the middle, and, best of all, bees do not travel-stain the combs. Make me enough for 50 hives more, about 400. C. M. Lincoln.
Rupert, Vt., Dec. 18, 1898.

THE A. I. ROOT COMPANY, MEDINA, OHIO.

EVERITT'S
Earliest of All
..TOMATO..
A week ahead of all others; bright scarlet, smooth, solid, fine. productive. Plant it & surprise everybody. Packet 10 cents. Write correctly our trade mark (3 words and 2 letters) & receive your choice of any pkg. of seeds in our catalog free. Get our free catalog before buying any seeds
J. A. EVERITT, Seedsman,
Dept. 82 Indianapolis, Ind.

SEEDS
Trade Mark

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DITTMER'S FOUNDATION Wholesale and Retail

This foundation is made by an absolutely non-dipping process, thereby producing a perfectly clear and pliable foundation that retains the odor and color of beeswax, and is free from dirt.

Working wax into foundation for cash, a specialty. Write for samples and prices.

A full line of Supplies at the very lowest prices, and in any quantity. Best quality and prompt shipment. Send for large, illustrated catalog.

GUS. DITTMER, Augusta, Wis.
Beeswax Wanted.

Our Incubators have all the latest improvements, are sold at very low prices and guaranteed to please every customer. Send 6 cents for our 150 page catalogue, which contains full descriptions of our extensive line and tells how to raise poultry successfully. Plans for poultry and brooder houses.
Des Moines Incubator Co., Box 78, Des Moines, Ia.

GENERAL ITEMS

Well Satisfied with Results.

I am well pleased with results of the past season. I started with 10 colonies in the spring, increast to 21 by natural swarming. I sold two swarms, and one took Greeley's advice and went West. I workt for comb honey exclusively, and my crop was 500 pounds, 400 of which was sold in my home market at 12 cents a pound. One old colony did not swarm nor store any surplus.
Marshall Co., Ind. J. W. Matheny.

Report for 1899.

My report for 1899 is 10 colonies, spring count, and 20 fall count, with 600 pounds of comb honey from raspberry, white, alsike and sweet clovers. E. N. Jarvis.
Tuscola Co., Mich., Feb. 10.

Mild Winter in Utah.

Here in Utah we have been having a mild, open winter, and as a rule the bees appear to be wintering fairly well. Some of our farmers and mountaineers tell us that there is only about one-tenth of the snow in the mountains now that there was at this time last year; but then, many of the tall pines were buried out of sight last year. The atmosphere was cold until June from the effects of those huge snowbanks, so that a warmer spring would be preferable, even if we do have less snow.

But we had a change, or rather a surprise, Feb. 6. It was a howler, a regular Kansas gale, 60 miles an hour, the first in seven years. It gave us a salt shower from the lake 15 miles off, and then a snow-storm

Cabbage Seed That Grows
There is no doubt or disappointment when you sow **Hammond's Improved Early Jersey Wakefield.** Undoubtedly the purest and earliest strain known. The result of years of careful selection, both for earliness and perfect heads. Especially valuable to market gardeners. 5c pkt.; 15c oz.; 60c ¼-lb., and $1.50 lb., all postpaid. **Hammond's Danish Ballhead.** A sure header of large, compact heads. My seed imported direct from R. Wiboltts, Denmark. Guaranteed absolutely true to name. See catalogue for cash prizes. Price same as above.
Catalogue free.
Harry N. Hammond, Seedsman,
Box 2, Fifield, Mich.

Please mention Bee Journal when writing.

BEE-SUPPLIES 40-page CATALOG FREE. Goods are the BEST. Prices are right. We can save you some on freight. Enquire of us.
7Dtf JOHN NEBEL & SON, High Hill, Mo.
Please mention Bee Journal when writing.

DON'T TAKE CHANCES!

Buy no Incubator and pay for it before giving it a trial. The firm who will not sell on trial have no faith in their machines. We sell the celebrated **PREMIER INCUBATOR ON TRIAL.** Also sole manufacturers of **Simplicity. Catalogue and Poultry Helps, 5c.**
Columbia Incubator Co. 5 Adams St., Delaware City, Del.

THE EXPANSION POLICY
is well exemplified in **Page Fences.** It's elastic.
PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.
Please mention Bee Journal when writing.

White as Snow
A New Early Ohio.

Here's a new potato with every quality to make it the most popular ever grown—**Vaughan's White Ohio.** Has every good feature of the old Ohio, and besides is **pure white** in color. Grown from Northern seed; early and prolific. A money maker for the grower **Get it now before everyone else grows it.** Fully described in our 1900 Seed Annual.

PRICE—per lb. 30 cents, prepaid; peck. 75 cents; bushel. $2.

SEEDS FREE! We want the names of live, active market gardeners. Send us two names and we will mail **FREE** one pkt. Globe Radish and one of Iceberg Lettuce, together with our Annual for 1900, a complete mirror of American Horticulture. Tells the whole story of the garden, lawn and farm.

Vaughan's Seed Store,
84-86 Randolph St., Chicago. 14 Barclay St., New York.

Please mention Bee Journal when writing.

California! If you care to know of its Fruits, Flowers, Climate or Resources, send for a sample copy of California's Favorite Paper—

The Pacific Rural Press,

The leading Horticultural and Agricultural paper of the Pacific Coast. Publisht weekly, handsomely illustrated, $2.00 per annum. Sample copy free.

PACIFIC RURAL PRESS.
330 Market Street, - SAN FRANCISCO, CAL.

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☞ IF YOU WANT THE **BEE-BOOK**

That covers the whole Apicultural Field more completely than any other publisht, send $1.25 to Prof. A. J. Cook, Claremont, Calif., for his

Bee-Keepers' Guide.

Liberal Discounts to the Trade.

310 First Premiums

Awarded to the **PRAIRIE STATE INCUBATOR.** Guaranteed to operate in any climate. Send for catalogue.
PRAIRIE STATE INCUBATOR CO. Homer City, Pa.

49A17t Please mention the Bee Journal.

HATCH with the perfect, self-regulating, lowest priced first class hatcher—the

EXCELSIOR Incubator

Hatches the largest per cent. of fertile eggs at the lowest cost.

Circulars free. Send 6c. for Illus Catalog.

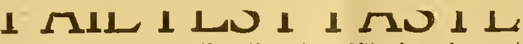
GEO. H. STAHL, Quincy, I

44A26t Please mention the Bee Journal.

$100 to the Winners

These wintery evenings you have some time to spare, so here is a puzzle you can solve. If you have not the leisure to-night, put it aside until to-morrow night or, better still, call the attention of the members of your family who have a taste for puzzles, to it. Some of you can hardly fail to get it. It is purely a test of quick-witted observation without any element of chance. There is only one answer that can be obtained by properly finishing the letters and supplying the space to make words of the letters. We give below two lines of incomplete letter puzzles. By solving one of them you earn a prize, and by solving both correctly you come in on the $100 prize to the winners.

Other Prizes To any contestant sending a correct answer to one of these puzzles, we will send their choice of a year's subscription to "The Gentlewoman," or "American Fruit and Vegetable Journal," or "American Poultry Advocate," or your choice of any one of the following books: "The New Hygiene," a book on up-to-date treatment to maintain health without medicine; the works in one volume of Charlotte M. Braeme; or the "Duchess"; or Miss Muloch's; or Sylvanus Cobb, Jr., or Miss Braddon's; or Wilkie Collins; or Mary Cecil Hay. When sending in your answers name the prize you wish, should only one puzzle be answered correctly. The first puzzle is



This puzzle consists of a line of 13 incomplete letters, which if complete would spell three words. Only the lower two-fifths of each letter appears, the other three-fifths have been cut off What are these three words? They are all taken from this very advertisement. The words are not separated from each other, but the letters follow in correct order, all they need being the space. There is no transposition or trick of any kind. Taking one letter right after the other from the first to the thirteenth they spell three words. EACH WORD IN BOTH PUZZLES APPEARS SOMEWHERE IN THIS ADVERTISEMENT. There is no chance about it. If there were two correct answers to either one of these puzzles, the Farm, Field and Fireside would be refused the mail for running a lottery.

The second puzzle consists of 13 incomplete letters, forming four words, the letters following consecutively as in the first: In order to get all the words in this advertisement as promised we are compelled to tell the following little story: "Some animal was injuring our trees on the hill, so we placed a poisoned paste in a tart, which the animal ate, and I hate to say what the pest proved to be. Can you guess? We found that the poison had made it very ill, and we took it by the tail and drowned it in the pond."

The object of the puzzle is in part to secure a large number of new trial subscribers to the Farm, Field and Fireside, the greatest agricultural weekly in the west. Do you know of any farmer who might be interested in a good farm paper? We want him on our list for a short time, and as the contest is inaugurated for the purpose of introducing our paper into new homes we make the following the

Conditions: To be eligible to receive a prize every contestant must send with his or her answer the name of a person not now a subscriber, with 25 cents to pay us for sending the paper to him on trial for three months.

Remember, if you get one line right you earn a prize. and if both are right you are in on the first prize. THIS CONTEST WILL CLOSE MARCH 31. ADDRESS PUZZLE DEPARTMENT FARM, FIELD AND FIRESIDE, 710 MASONIC TEMPLE, CHICAGO.

☞ Don't fail to mention the Bee Journal when writing advertisers.

from 3 to 6 inches. As a rule, we have very little wind; sometimes our bees can fly for weeks without enough wind to be called a breeze, but on Tuesday, when everything was as quiet as a lamb, real estate took a sudden flight upward, in such quantities that one could not see 50 feet away. Well, it will help out the water supply. As the old saying goes, "It's an ill-wind that blows no one any good." E. S. LOVESY.

Utah Co., Utah, Feb. 8.

"Has the Bee an Extra Sense?"

Noticing the article on page 86, "Has the Bee an Extra Sense?" Michigan will corroborate Massachusetts. Every experienced bee-hunter knows that where bees are carried forward towards the tree, and by and beyond it, when liberated from the box they will continue on the same course, altho going straight away from the tree. The bee-hunter, however, is not misled, for if the bees do not return in about the same time, or sooner, than from the last place, he well knows he has past the tree. They will find the box after awhile, unless towards evening, in which case they seldom return. D. H METCALF.

Calhoun Co., Mich.

Poultry and Bees.

I want to tell what a friend of mine did with 300 hens in connection with bees for the year ending Jan. 1, 1900. This man is a bachelor, and I believe any good woman can do just as well, if not better, if she is a woman that will work, as it takes lots of work:

EGGS SOLD DURING 1899.

January,	155	dozen,	@31c	$48.05
February,	416	"	@16c	66.56
March,	731	"	@13c	95 03
April,	507	"	@15c	76.05
May,	440	"	@17c	74 80
June,	485	"	@17c	82.45
July,	286	"	@18c	51.48
August,	210	"	@20c	42.00
Sept.,	276	"	@24c	66.24
October,	290	"	@28c	81.20
Nov.,	216	"	@31c	66.96
Dec.,	292	"	@32c	93.44
Total for eggs				$844.26

Sold during the year 30 doz. broilers at $3 00	$90.00
Sold during the year 20 doz. hens at $5.25	105.00
Grand total	$1.039.26

There was no account kept of the eggs or chickens consumed by the family during the year, and as he raises his own feed, no estimate was made of its cost.

Now, do you not think that the poultry business would pay for the women-folks to take hold of in connection with their husband's bee-business? G. T. JONES.

Sutter Co., Calif.

Bees Still Working in Texas.

I have just come in from working with my bees, and find them still at work. They haven't lost more than one week so far this winter. They are bringing in pollen as in the spring of the year. I have 116 colonies all in good condition, with plenty of surplus.

If I had to cellar my bees I should go out of the business. Mine stay on the same stands summer and winter.

W. W. WILLIAMS.

Goliad Co., Tex., Feb. 2.

No Wax-Moth.

On page 93, Mr. A. F. Foster claims to have seen hundreds of bee-moth in Boulder Co., Colo., during the past summer. While I don't know what Mr. Foster means by "bee-moth," I am fairly certain that there

Sharples Cream Separators; Profitable Dairying

are *no "wax-moth"* (Galleria mellonella) existing in that locality. We have a small grain-moth, to which he evidently refers, the larvæ of which will feed on pollen, and therefore are found sometimes on brood-combs which are not protected by bees, but they are never found working in section honey. They resemble the larvæ of the codling-moth very much, in size as well as color. FRANK RAUCHFUSS.

Arapahoe Co., Colo.

Must Love Bee-Keeping.

I have been in the bee-business since a boy, I might say, and have made it almost a specialty for a number of years. I am satisfied that for one to be successful at it he must not only love it (*a la* Doolittle), but the bee-keeper who may consider himself pretty well informed will not only find that it will not only add to his pleasure, but will add to his income also in dollars and cents, to keep himself well informed and up with the times.

I have just been down in the cellar looking after my 80 colonies of bees, which seem to be in excellent condition.

Clover was in fine condition a short time ago, but the snow has thawed off, and we have had a few days of quite cold weather, which I fear is pretty hard on it.

W. C. NUTT.

Hardin Co., Iowa, Feb. 5.

Bees in Good Condition.

My 175 colonies of bees are in good condition at this date, in the cellar. The temperature is 45° to 48°. FRED. K. LOUCKS.

Lewis Co., N. Y., Feb. 6.

Bees All Right So Far.

I commenced last spring with 4 colonies, bought 5 in box-hives, and increast to only 12. They are all right this far. I winter them in chaff hives on the summer stands. I lost only one last spring. The past year was an off one with bees here. There were about 100 acres of buckwheat within two miles, but there was no honey to amount to anything. On examining with a magnifying glass, only a few blossoms had any honey. The drouth set in at the time it began to bloom, and when harvested it yielded no grain. Nearly two thirds of the bloom withered and died. But the bees filled the brood-chamber with honey. I got no surplus to speak of. ASA RICE.

Muskegon Co., Mich., Feb. 11.

Color of Honey—Extracting-Combs.

On page 29 is an item in regard to color of combs and color of honey. I have observed other causes than the one named for the discoloration of honey. Last summer was an unusually poor season for honey, and the fall flow did not commence until quite late; this left my bees pretty uneven in regard to strength and readiness to make use of the harvest when it came. We got some honey from buckwheat, but most of my bees were not ready to give any surplus from that source. Some colonies were ready for it, and carried it into the supers, but the remainder got just about enough to fill the brood-chamber. The result was, when at the close of the season I commenced to extract, the first-named had their comb filled with buckwheat honey, quite dark in color, and the remainder filled theirs with honey from other autumn flowers. There was quite a difference in the color and taste of the honey.

I have produced extracted honey for the last 25 years or more, but have never been able to see any difference in honey stored in old or new combs. Water, no doubt, would dissolve some of the coloring matter, but I doubt if honey would.

Years ago, when my children were small, they would frequently let pieces of bread covered with honey lie around, and when I would find them hours or days later, the bread was usually dry and hard—not soft like bread that is water-soakt.

In regard to the care of extracting

G. B. LEWIS CO.,
MANUFACTURERS OF
Bee-Keepers' Supplies,
WATERTOWN, WISCONSIN.

Our new Catalog is ready.
If you have not received a copy do not fail to send for one.
Remember our **Packing-Case.** Supplies arrive in neat condition.

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192 pages. 8x11 inches. Articles written expressly for it by leading poultry authorities of the world. Handsomely illustrated. Justifies its title *"How to Make Money with Poultry and Incubators."* Tells about the
Cyphers Incubator Warranted to last ten years without repairs, and to out hatch any other machine, during three trials, bar none. 16-page circular free. Send 15c. in stamps for $4000 Poultry Book No. 50. Address nearest office.
SELF SUPPLIED MOISTURE. SELF-REGULATING. SELF-VENTILATING
CYPHERS INCUBATOR CO.,
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THE IDEAL HOG FENCE
GOOD FENCE!
Makes good neighbors. Why not have both when you can make the best for
20 to 35 Cents a Rod.
A little inquiry into the merits of our system of fencing will repay you handsomely. Write to-day for free Catalog.
KITSELMAN BROTHERS,
Box 138 Ridgeville, Indiana, U. S. A.
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GINSENG WE ARE HEADQUARTERS FOR **Seed & Plants**
All the latest instructions about it; its value; what used for and how to grow it. This valuable information FREE for a stamp.
AMERICAN GINSENG GARDENS, ROSE HILL, New York.
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Mention this paper
EVERGREENS
Hardy Sorts, Nursery Grown. Millions to offer. 6 to 8 in. $1; 12 in. $3; 2 to 3 ft. $10 per 100 prepaid; 4 to 6 ft. $20 per 100. 50 GREAT BARGAINS to select from. Forest and Fruit Trees, Vines, etc. Send for free catalogue. LOCAL AGENTS WANTED.
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Lowest Freight Rates in the country. Send for Catalog.
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shown here is one of special merit. Equipped with **Super Brood chamber, section holder, scalloped wood separator and flat cover.** We make and carry in stock a full line of bee supplies. Can supply every want. Illustrated catalogue FREE
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A practical business paper for the farmer. It treats of farming and stock breeding from both practical and scientific standpoints. It is the oldest and best known agricultural weekly in the South. If you have anything to sell send us your advertisement. Every farmer who expects to mix "brains with muscle" in his business should read this paper. Subscription price, $1.00 per year. Sample copy free. Address, FARMER'S HOME JOURNAL, Louisville, Ky.

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This means that you save all the money between you and the manufacturer, such as dealer's and agent's profits, traveling men's expenses, losses on bad accounts, collection expenses, etc. We give a guarantee which guarantees and will ship any vehicle or harness anywhere subject to purchaser's approval. If not found exactly as represented and entirely satisfactory, goods may be returned at our expense and we will refund your money. Is not this fair? **We guarantee every article to be of good quality in material, workmanship, style and finish.** We are original in design and offer you largest selection. Write at once for free illustrated catalogue and see for yourself.
KALAMAZOO CARRIAGE AND HARNESS CO., Box 53 KALAMAZOO, MICH.
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troubles can obtain valuable advice, FREE, by addressing
DR. PEIRO,
34 Central Music Hall, CHICAGO.

☞Write at once, stating age, sex, occupation, how troubled, post-office address, and enclose return stamp for immediate reply.

GOOD WHEELS
MAKE A GOOD WAGON.
Unless a wagon has good wheels it is useless. THE ELECTRIC STEEL WHEELS are good wheels and they make a wagon last indefinitely. They are made high or low, any width of tire, to fit any skein. They can't get loose, rot or break down. They last always. Catalog free.
Electric Wheel Co., Box [illegible] Quincy, Ills.

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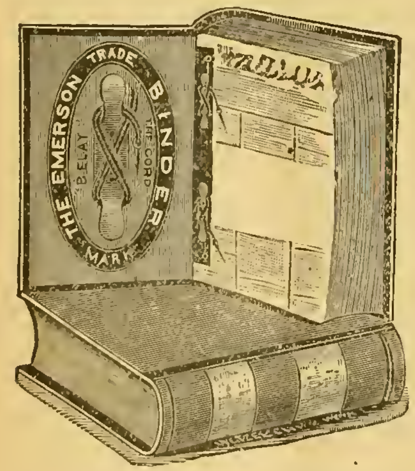
THE WAR IN SOUTH AFRICA
has demonstrated the great foresight of the Boers, in availing themselves of all the opportunities in times of peace to prepare for war. Similar foresight should lead you to improve the opportunity of securing better farms than theirs in this country. They are on line of the Chicago, Milwaukee & St. Paul railway in Marinette county, Wisconsin, where the crops are of the best, work plenty, fine markets, excellent climate, pure, soft water; land sold cheap and on long time. Why rent a farm when you can buy one for less than you pay for rent? Address C. E. Rollins, Land Agent, 161 La Salle St., Chicago, Ill.

FARM RAISED POULTRY pays the buyer because they are strong, vigorous, healthy and will breed healthy stock. All the stock we ship is farm bred. We have the largest pure bred poultry farm in the Northwest. Our mammoth poultry guide explains all and tells HOW TO MAKE BIG MONEY WITH POULTRY. Best and largest book out. Worth $25, but sent postpaid for 15c.
John Bauscher, Jr., Box 94, Freeport, Ill.
24E13t Mention the American Bee Journal.

The Emerson Binder



This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.
GEORGE W. YORK & CO.
118 Michigan Street, - CHICAGO, ILL.

combs, I have practiced for years storing them in empty hives as taken from the extractor. I usually put 12 to 13 combs into a 10-frame hive, and store them in the barn until needed the following season. It is but seldom that I find a moth in any of them, and, besides, it seems to me that the bees have less trouble in cleaning them up, as when stored away dry.

If these observations do not correspond with those of others, let them make it known, for we all feel interested in the facts.
Fred Bechly.

Poweshiek Co., Iowa.

No. 2.—Medical Animals.

Well, as I said before, our Dick—that's our Plym Rock rooster—is paralyzed. His legs won't work; can't get up, walk or scratch. Pretty bad, isn't it? Some say, "Kill him." No! He's a good two-year-old, and his family of a dozen biddies are much attacht to him. So am I. But he's like some boys I could tell you about—he ate too much, and so got sick. You see, his stomach is affected, and in turn that gives him what doctors call "vertigo;" that, again, makes him dizzy, and he can't walk. That's all. I am giving him a small powder of nux, and later on I may tell you whether it has killed or cured him.

Now, chickens have lice. Of course, you have heard that before. But did you ever know that a certain quantity of lice—not too many, tho—is really a good thing for chickens? Eh-eh, that's so. The bugs eat off the old skin so that the chickins can peck it out to their great relief. Then when Mister Bugs have done their work Biddy looks around for a nice dry spot where the dirt is warm and loose, and by a vigorous series of back-handed kicks, it throws so much dust all over her that it smothers the creeping lice, or makes them let go and get away.

Now and then chickens get lonesome, even act crazy—the feathers come off, and they look like a fright. That's because they don't feel good. But just let them get at that pepper-grass out in your back yard, and you'll see what a change takes place in a short time. O, they know their medicine!

Then there is that old sow in the big pen. Of course she grunts, wouldn't you, if suffering awfully with the stomach-ache? Well, I guess! Only she has it worse than you ever did. Raise up that board so she can get out, and see her make tracks for the old pond. There she goes, wallowing right in the mud. Cool mud is exactly the kind of poultice her inflamed insides need.

No, just let her stay right there. She'll come home when well. A few loads of soft-coal screenings should always be kept in the pig-lot. They sometimes like it better than corn. It keeps the piggies well.

Rabbits? Yes, they are nice pets, but if you shut them up they soon get sick. They are great sufferers from tape-worm, and sometimes the worm is ten times longer than the Bunny. What do you think of that? Then is when they enjoy a big pumpkin—they will eat it, seeds and all.

Nannies, did you say? Yes, goats make nice pets, too; the trouble is, boys are so cruel to the little beasties. They hitch them to wagons and expect them to draw loads out of all reasonable proportions to their size. Under such harsh treatment they soon sicken, pine and die. But if gently cared for they become very affectionate. But the William goat, the whiskered Billie, won't do to depend upon! Better keep clear of him. I've had experience! They do best in hilly, rocky regions. They do not thrive on flat, wet prairie. They, too, are subject to big round worms, and if they can't have the moss and lichens off the rocks—which is their natural medicine—they grow thin and die.

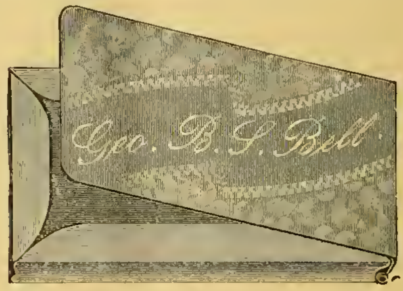
Sheep are not quite so tender, but a hilly country is best for them, too. They have many diseases and bugs to trouble them, but if where they can nibble on willow they keep fairly well. Willow has much the properties of quinine, and maybe they need it, now and then, to keep off malaria. Who knows?

I had a Cossett once—that's a pet lamb grown up. I don't want another. To get a terriffic thump in your back when you don't expect it, is a painful joke.

But I'll tell you what does make a queer pet——Mr. York yells, "Nuff sed."
Uncle Frank.

100 Cards and Card-Case
——FREE——

We have arranged to mail a neat vest-pocket Aluminum Card-Case with 100 printed Business or Visiting Cards—all for sending us ONE NEW SUBSCRIBER to the American Bee Journal for a year at $1.00. This is indeed a rare offer. You can have anything you wish printed on one side of the card. Your name alone will be engraved on the Aluminum Case. It is something that everybody ought to have. Be sure to write very plainly what you want printed on the cards, and also the name for the case.



We will mail the cards and case for 50 cents, when wanted without sending a new subscriber, or will club them with the Bee Journal for one year—all for $1.40.
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118 Michigan Street, - CHICAGO, ILL

The Mississippi Valley Democrat
—AND—
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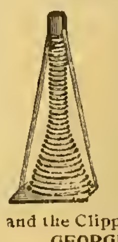

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Convention Notices.

Utah.—The Utah State Bee-Keepers' Association will hold its semi-annual convention in the City and County Building, Salt Lake City, Apr. 6. 1900, at 10 o'clock a.m. A full program in the interest of the industry will be presented, and all our bee-keepers can help themselves by aiding the Association, and in order to create a closer bond of union among our bee-keepers. As a further incentive to the success of the bee-industry, it is very desirable to have our bee-keepers from all parts attend the spring convention.

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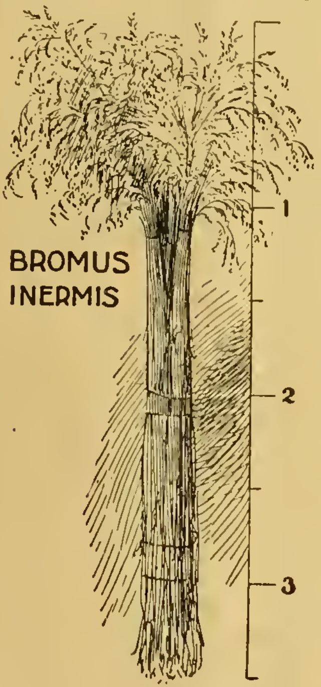
All Interested in Fruit and ornamental trees, shrubs, roses, plants or seeds, will do well to write the Storrs & Harrison Co., Painsville, O., for their valuable free catalog. They are one of the most reliable as well as oldest in the business, and have a reputation behind them on which you can rely. When writing them please mention the American Bee Journal.

What is Bromus Inermis?—Our attention has been directed to this wonderful new grass by L. L. May & Co., St. Paul, Minn., whose advertisement appears elsewhere in this issue.' Bromus Inermis or Brome Grass while referred to above as being new is not entirely unknown in this country, but it is in its native country of Russia that it is most highly appreciated. Its prime characteristics are its wonderful productiveness and ability to grow, thrive and produce abundant crops of pasturage and hay in dry, semi-arid sections and localities where other grasses fail signally. It is hardy almost beyond comparison and is not affected by drouth, will not winter-kill and cannot be flooded out. It grows as well in low, swampy places as in the lighter dry upland where other grasses fail. This enables every farmer to make productive, portions of the farm that would otherwise be waste land. It has been found that the yield is greater than alfalfa; that it will produce heavy crops on the lightest of soils; that one seeding will last under ordinary conditions for 12 years; that it grows best when seeded alone and not in combination with other grains, and that the food value when converted into hay is superior to timothy of the same quality. There are many sections of the country where Brome Grass will prove of large value because of the excellent qualities enumerated above. In localities where there is only slight rainfall or where there is only a limited amount of water for irrigation purposes, it would seem especially wise to experiment with this grass. Write May & Co. for any special matter they may have on the subject. We feel personally that a new forage crop that offers such promise deserves the most careful consideration and investigation. Don't forget to mention the American Bee Journal when writing May & Co.



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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Feb. 7.—Trade is slow in comb honey, choice lots of white bring 15 cents, with that a little short of this grade, 13@14c; ambers range from 10@12c; dark, 8@10c; no fancy lots on the market.

Extracted, fancy white, 9c; amber to white, 7½@8½c; dark and buckwheat range about 7c. Beeswax is selling on arrival at 28 cents.

R. A. BURNETT & Co.

CINCINNATI, Dec. 27—There is a good demand for all kinds of extracted honey. White clover and basswood sell at 8@8½c; amber and Southern, 6@7c, according to quality and package. Fancy comb honey in no-drip shipping-cases sells at 15@16c; darker grades hard to sell at any price. Beeswax, 26c. C. H. W. WEBER,
Successor to Chas. F. Muth & Son and A. Muth.

LOS ANGELES, Jan. 4.—1-pound frames, 12½-@15c; 2-pound cans, 2 dozen in case, per dozen, $2.50; 2-pound glass pails, per dozen, $2.50. Extracted, water white, 60-pound tins, per pound, 8½c; light amber, 7½@8c; dark amber, 7½c. Beeswax, 25@26c.

KANSAS CITY, Feb. 12.—We quote fancy white comb, 14@15c; No. 1, 13½@14c; No. 2, 12½@13c; fancy amber, 13@14c; No. 1, 12½@13c; No. 2, 12@12½c. Extracted, white, 7½@8c; amber, 7@7½c; dark, 6@6½c. Beeswax, 22@25c.

C. C. CLEMONS & Co.

BUFFALO, Jan. 5.—Market bare of fancy white one-pound comb honey, and selling at 15@16c; fair to good, 12@14c; buckwheat, dark, poor, etc., 8@10c. Fancy pure beeswax, 28@30c.

BATTERSON & Co.

NEW YORK, Feb. 8.—During the past 30 days our market has been somewhat slow and easy in both comb and extracted honey. Stocks of comb honey, however, are almost exhausted, and there is a fair demand for all grades. Fancy white selling at 15c; No. 1 white at 13@14c; fancy amber, 11@12c, and buckwheat at 9@11c, according to quality, etc.

Our market is well supplied with extracted, tho prices are firm and unchanged. Beeswax sells very well at from 26@28c, according to quality. HILDRETH & SEGELKEN.

SAN FRANCISCO, Jan. 10.—White comb, 11½@12½c; amber, 8@10c. Extracted, white, 7½@8c. light amber, 7@7½c; amber, 5@5½c; Beeswax, 26@27c.

Offerings and demand are both light, and this must continue to be the case until the end of the season. Business is necessarily of a retail character, but at generally firm figures, especially for choice extracted, which is in lighter supply than comb.

BOSTON, Jan. 12—We quote as follows: Fancy white, 16c; A No. 1, 15c; No. 1, 13@14c; buckwheat will not sell in this city. Extracted, light amber, @8c. Demand is very light.

7 BLAKE, SCOTT & LEE.

ALBANY, Jan. 10.—We quote: Fancy white comb, 15c; No. 1 white, 13@14c; mixt, 11@13c; buckwheat, 10@11c. Extracted, white, 8@9c; mixt, 6½@7c; dark, 6. Beeswax, 26@28c.

MACDOUGAL & Co.
Successors to Chas. McCulloch & Co.

OMAHA, Feb. 13.—Demand shows some improvement in January, having been much more active, but as anticipated there is no advance in prices. Market remains steady at 14@14½c for fancy white comb and 8½c for white extracted. The latter is pretty well cleaned up along the Missouri River, and it looks as if there would be some shortage before another crop comes in. From present appearances there is about enough comb honey to go around at the present prices, hence we look for no particular change in values. PEYCKE BROS.

DETROIT, Feb. 10.—Fancy white comb, 15@16c; No 1, white, 13@14c; fancy amber, 11@12c; dark and undesirable lots, 8@10c. Extracted, white, 7@7½c; amber and dark, 5@6c. Beeswax, 25@26c. Supply of honey fair with light demand.

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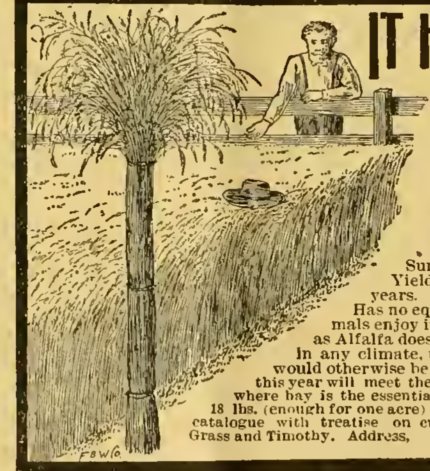

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DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS.

40th YEAR. CHICAGO, ILL., MARCH 1, 1900. No. 9.

CONTRIBUTED ARTICLES

Description of the Johansen Extension Hive.

BY H. JOHANSEN.

APROPOS of questions which are continually agitating the bee-world, and with some casual reference to the small-large hive (or, more properly, colony) agitation which last summer was of apparently absorbing interest, the following remarks may shed interest and light upon some subjects.

Certain results, and observation of present methods in apiculture, led me to make some radical departures in the important matter of the hive. I was strongly imprest with the need and possibility of great improvement, and equipt an apiary of 25 colonies with a hive which includes the possibility of the best features of the standard hives (Langstroth, etc.), and makes possible the correction of some evils which bee-keepers experience.

If I had experimented with one colony I might not have been fully convinced of the correctness of my theories as represented in the hive, but having found the trial made on a large scale to have been eminently successful and convincing, I have seen my way clear to relegate the old furniture for the new; and I am convinced that however radical the ideas may seem, or how much opposed to commonly accepted practices, they are correct, and entirely follow along the lines of the natural habits and inclinations of the bee. That, of course, is the plan of procedure in successful apiculture. There is but small wisdom, for instance, in attempting to make the creature of instinct rise with its stores when entering the hive, if its instinct directs to do otherwise, however much it may be said that the bees deposit their stores all around the brood-comb, and accepting that as true. Now, I believe there is a good deal of such work attempted, and it cannot help being detrimental to a large extent to anything like success. I do not believe that present appurtenances are any more perfect than present methods of handling. Since the time of the great Langstroth there have been some improvements in hives, it is true, yet the main features remain the same.

It seems barely possible none of the predecessors thought of *all* the requirements, and it is even possible that errors have been made which altho perhaps slight, or mere perversions, are still detrimental to a degree.

In contemplating a change I had the following ideas in mind, and they are all of sufficient importance to warrant the attention and careful consideration of bee-keepers:

1st. I recognized the importance of preventing the bees from wasting time during the season when one is anxious they shall rise to the super (if such is considered), or, in other words, force them thru natural impulse to fill the sections without the delay so often experienced.

2nd. Preventing the detriment of swarming when it becomes such—and it usually does become detrimental when running for honey.

3rd. Facilities when desirable to run several queens in one hive because of its economy in honey-production, as I shall explain later.

4th. The necessity of better means than present ones for keeping the sections clean, and handling when removing them.

5th. The desirability from my standpoint of [a] chaff hive with the features mentioned.

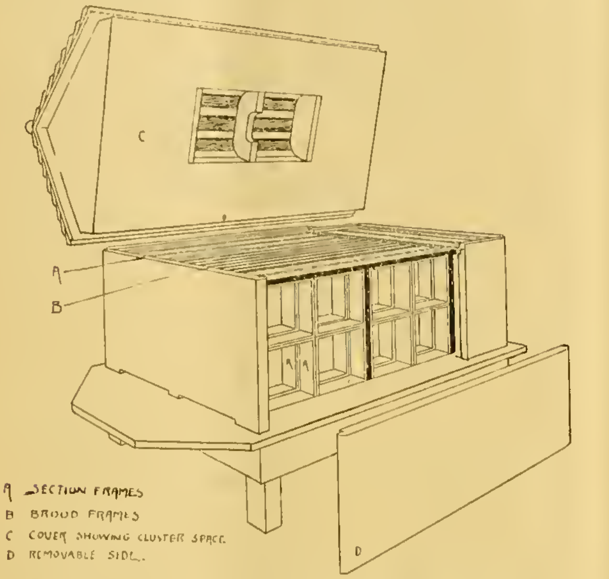
I may describe the hive which I built, briefly as follows: It is made to accommodate standard Hoffman brood-frames, of which it will hold eight or 20, according to the manner in which it is run. Across the back of the hive is a space designed to hold two section-frames of eight sections each. On each side of the brood-frame I hang two section-frames similar to those at the back, with eight sections in each frame. This honey or section frame is simply a frame with lock and hinges which incloses eight sections in such a manner as to expose only the edges for the bees to stick over with glue, and can be hung in the hive in the same manner as, and alongside of, the brood-frames, or elsewhere.

When the hive is run for extracted honey ordinary frames, such as are used for the brood, take the place of the section-frames, being separated from the brood only by excluders; or the brood-chamber can be run thru to the sides and back, as the case and the intentions may require. Next

Mr. Johansen and His Extension Hive.

to the sides and back, and between them and the honey section-frames, are hung division-boards, either in the form of a frame with glass, or a light wire screen; in either case intended to make it possible to see the sections, and being equally serviceable and desirable.

If a very large colony is produced either by a very fine queen or by uniting swarms, as I mention later, one section-frame on each side of the brood-frames can be removed; or both, thus making brood-chamber of the entire front of the hive; or the section-frames can be removed from the sides and back, giving still more room for brood-chamber. In the first case we have eight brood-frames and six section-frames; in the second case we have 12 brood-frames and four section-frames; in the third case we have 16 brood-frames, and two section-frames in the back of the hive; in the fourth case we have 20 brood-frames, and a colony with such a brood-chamber being naturally very strong, there will be no trouble in getting the bees to rise into a super constructed of section-frames, similar to those already mentioned, except that they may contain four or eight sections, according to the demand. Such a super would contain 50 or 100 sections. Both side and back walls are removable for convenience in taking off the surplus (whether in sections or in honey-frames for extracting).



After the removal of the section-frames or honey-frames at the close of the season, the space so left in the back and sides is filled with straw. The front of the hive is of two pieces, with tar or oiled paper between to keep the heat in. The hive usually facing the south, it is not necessary to take quite the precaution in chaffing that side, and I am confident the double wall will be sufficiently warm for the front. The floor of the hive is well chaft, as is also the roof or cover, which is besides fitted with a cluster space and means of ventilation thru the chaffing.

It is not designed to run a super except when more than one queen is run, or when the hive proves too small for the accommodation of the brood and surplus of a colony with a very strong queen. When running several queens they will be excluded from each other and the surplus by queen-excluders, but all the bees being from the same colony will intermingle. The front of the hive will have two entrances to be used as explained later.

The advocates of the 8-frame hive could run this hive without changing their theories in regard to the brood-chamber; and those who advocate large brood-chambers would be equally well suited, as the hive has elastic qualities in which an expert will delight.

I start the hive with eight frames of brood and two section-frames on each side, and two at the back, for instance. I then find that my queen can fill more commodious quarters, and take out two section-frames, which still leaves four section-frames containing 32 sections, and increases the brood-chamber to 12 frames. If I begin expanding the brood-chamber before hanging the section-frames, I of course simply move out the division-board as the requirements direct, and this I can do to 20 frames in the brood, in which case the strength of the colony, with perhaps two or even three queens, will easily send the bees up to the super as before mentioned, for it will, of course, then be necessary to have a super.

Normally, we will consider that the hive has six of the section-frames holding 48 sections, on the sides and back, and that this is the only reasonable and economical way of running a moderately strong colony, or even a strong colony under the usual conditions.

It is well known that the lower part of the hive has to be filled before the rise to the super takes place; but how often the bees loaf around and sometimes miss a crop, even when there is no apparent reason, the common cry alone can tell. We occasionally read in the bee-papers of some one's plan of *forcing* the bees into the sections. Now it is simply impossible to force bees to do anything, and one can reverse the order of things as much as one likes, and in the end the result will be the same. Towards fall, for instance, when there are a large number of empty cells in the brood-combs, the bees will carry honey down from the super, if there is no honey-flow, etc.

I have concluded that the bees apparently do not rise into the super with stores as readily as they will deposit their stores in the lower part of the hive; at least not until there is a superabundance of bees in the hive. Herein lies the difference, and I believe also from observation, that bees prefer to spread to the sides rather than spread upward. From the experiment I find that the bees will build to the sides indefinitely, and enter the sections without any hesitancy or delay whatever, never failing in this respect if there is honey flowing. Now, this is a valuable consideration, and in connection with the clean sections, and straight, full combs obtainable with the system, would be worth any inconvenience, if indeed there were any. As the bees enter the sections from the side, and only the edges are exposed, there is no possible chance for any gluing or dirtying of the sections, and one can remove section after section with scarcely a speck of bee-glue to be seen, and it is consequently not necessary to scrape them either by hand or machinery.

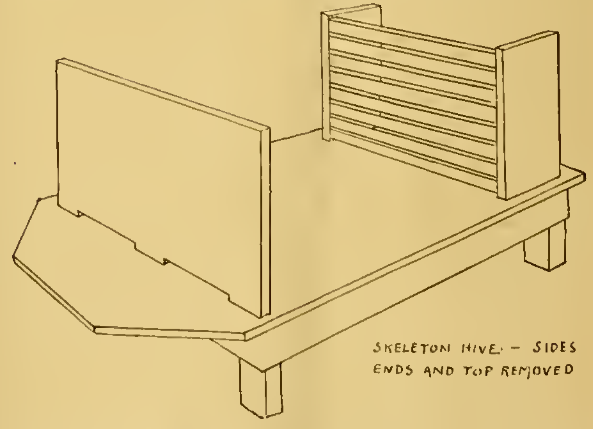
Another reason which makes this honey section-frame desirable is its easy removal. To be considered quite distinctly are the following:

1st. That when one desires to know how the sections are filling it can be discovered in a moment, and without disturbing the bees, by simply removing the side or back, thus exposing the sections from the side, which in itself is much superior to peering down between the cracks thru a colony of bees rising towards one's face.

2nd. When removing the sections one does not straightway invite every bee which feels it has had its roof-tree and stores stolen, to rise to a friendly caress; to say nothing of the disturbing nature of the proceeding, which is undoubtedly felt in the work of the entire colony.

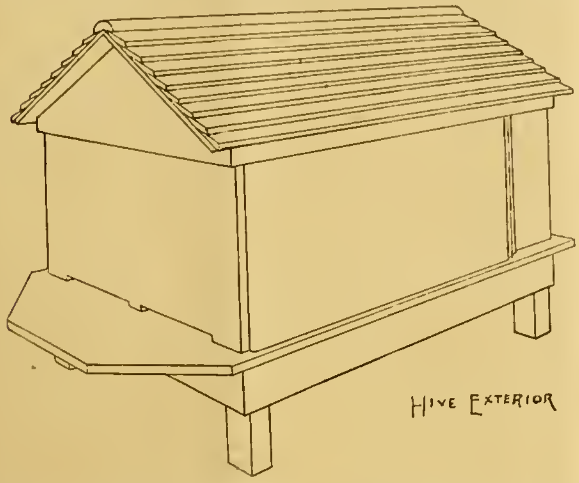
3rd. Full section-frames removed are at once replaced with new section-frames ready at hand; and the vexation of removing a super with sections in all stages of completeness and incompleteness is minimized, as it is of course only possible to remove about eight sections at a time, and, as they are pretty well localized in the same part of the hive, are apt to be in about the same condition.

It might be added that the storing of honey is not entirely interrupted when removing sections during a honey-flow, as working on one side only there are still two sides in which the storing goes on uninterruptedly.



SKELETON HIVE. – SIDES ENDS AND TOP REMOVED

One of the main features of the hive is what I will call its elasticity. An 8-frame hive is the thing to have if the rearing facilities are only sufficient to produce brood enough to cover that number of frames, but if more bees than eight frames will accommodate be produced it will be necessary to induce swarming thereby, or accommodate them in the brood-chamber, and no one will have any objection to a large colony, no matter how large, because the more bees it has the more honey can be produced—providing it does not become crowded so as to induce swarming. It will not do to be arbitrary in the selection of either a large or a small hive, for all colonies do not work alike, and what would suit one colony exactly might not suit another, like a large shoe on a small foot. What is necessary, then, is a hive to meet every exigency, and to accommodate a large or small colony equally well. Personally, I believe in having plenty of bees in the hive, and by that I mean all I can get, either by means of good queens or by a plan which I intend hereafter to pursue for this reason, and incidentally to solve the swarming question, or rather, control swarming in the interest of honey-production. Both of these highly desirable things I can accomplish with the new hive in the following manner: I start with eight brood-frames. If I find a necessity for 10 I expand the brood-chamber and this I can do indefinitely in the manner and as previously described.



A still more sure plan is that at which I have already hinted, viz.: two or more queens to a hive. This, as I have before said, was an afterthought too late to put into practice during the last season, and while I have not tried it, yet unquestionable authority not differing in essentials, confirms my belief in it. Running more than one queen in a hive is not an entirely new proposition, and such a plan, if practicable, would have, to any one, its own obvious reasons unnecessary to dwell upon.

I quote as authority Mr. G. M. Doolittle, and while my references are found in his book on "Scientific Queen-Rearing," the circumstances alluded to by Mr. Doolittle are not different in an ordinary working hive. Any one can convince himself of the possibility by reading from the middle of page 93 to page 96 carefully. One or two other references, perhaps not so applicable, can also be found. It may be noticed that mention is made by Mr. Doolittle of these things having occurred in an upper and lower hive, while I use only a lower hive. This, however, can in no way affect the proposition. A double-queen system in a working hive would hardly be possible, except in one having the features which I describe, and outside of this possibility its advantages are so numerous as to render it very valuable. The following, then, would be the method of procedure:

If the bees show a tendency to cast a swarm I am perfectly willing to let them do so; rather gaining than losing thereby, as by the management I will still have the united force of all the bees I had before, and in addition an increast producing facility as hereinafter explained.

As soon as a swarm is cast, having first placed the new swarm in the hive from which it issued, I expand the brood-chamber. I do this, if I have already hung the surplus frames, by sacrificing one on each side, or all, as the case may seem to require. Before returning the new swarm to the old hive, I push the old swarm and brood-frames to one side of the hive, and isolate the queen by means of an excluder, leaving half of the brood-chamber to the domain of each queen. Having given the new swarm the necessary brood-frames with starters, I close the hive, and the operation is practically complete. In order to be sure that the young queen shall return to the right side of the hive when she returns from her flight, if she should not happen to have been fertilized before the swarm was cast, I have two entrances in the front of the hive which I use as follows:

Having prepared one side as I explained, I close the entrance which opens into the space for the new swarm, leaving the entrance which opens into the space for the mother colony for a passageway for all the bees; if the new queen has not been fertilized, it will of course leave and enter by this entrance. This insures separation of the queens.

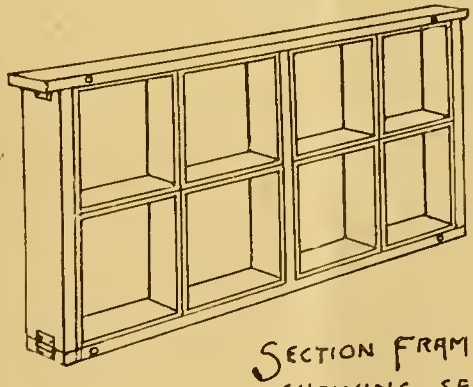
After a few days, when I am sure the new queen has been fertilized, I remove the obstruction from the closed entrance and run them as necessary. If still another swarm is cast, I handle it in very much the same manner by placing the new swarm in the rear compartment and giving it four brood-frames. The queen-excluder already in place serves to exclude the queen from the rest of the hive.

Having hived the swarm I examine both sides of the original brood-chamber to ascertain, if I have not seen the swarm issue, which side cast it. This is necessary in order to arrange the entrance on account of the possibility of an unfertilized queen, as before explained. Having cleaned out the remaining queen-cells, if any, while investigating the two sides, I can close down the cover on a single hive with the rearing power of two or three colonies, and feel quite secure about further swarming or dwindling on account of it.

If the second swarm issues after about June 1st, it is of course a question for the bee-keeper to decide whether he will install it as colony number three of the hive, reinstate the bees, or handle the swarm in some other manner, but the facility is ready for the emergency if required. No moving around or handling of the hive is necessary. Such a thing would at least be very singular and rare, so the objection which might occur to some is not of weight. The size of the hive is about 22x26 inches.

In the fall, in preparing for chaffing, the hive is reduced to one colony (if more than one queen is successfully used) occupying about eight frames; leaving chaffing spaces of three to five inches on the sides and back; or preferably two colonies are left, the brood-chamber being reduced to about 10 frames, which is sufficient, considering considerable room in the cluster-space; there will then be about a five-inch chaffing space in the back and about 3½ inches on each side. The side spaces can be advantageously used for feeding, either in the fall before chaffing, or in the spring by removing the chaff from the warm side and placing the food there.

In the event of reducing the brood-chamber to one colony, there will be a considerable increase of colonies either for next year's apiary or for sale. The same will be true also if some of the hives have three colonies, and it is decided to winter with two. Other advantages of the system might be mentioned, and further explanation and details given, but space would not permit. Cook Co., Ill.


SECTION FRAME — SHOWING SECTIONS IN PLACE. —

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Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Upon receipt of $1.00 for your Bee Journal subscription *a full year in advance*, we will mail you a Wood Binder free—if you will mention it.

NO. 2.—COMB HONEY PRODUCTION.

Some Preliminaries to the Harvest—Wintering, Breeding, Etc.

BY R. C. AIKIN.

TO obtain strong colonies by the time of the honey-flow is one of the great problems. The time of the flow must be known, and all must be planned for that time.

There are localities where the crop-yielding nectar comes in the late summer or fall, and in such case it is easy to get the colony ready to do good work; but for an early summer flow from such source as white clover we usually can not get ready too soon.

One great difficulty in harvesting good crops of honey is to keep the colony from wasting strength in swarming. If we could *surely* control swarming so as to have it come when we wisht, and not till then, we would make a great step forward. The colony that swarms becomes too weak to do much in storing surplus, and the swarm, too, must be hived in a contracted hive to be in shape for good section-work, and even when in a contracted brood-chamber the flow must be fair to very good if we get satisfactory work.

White clover being the most common source of nectar, we will study principally from a clover standpoint, and choose the latitude of southern Iowa and figure on dates that correspond to that, so those living farther north or south, or if for any other reason the season in the reader's location should be earlier or later, just make the proper allowance. As the clover will advance just about the same in a given time when once started in spring, so you make your estimates.

In southern Iowa spring may be expected to begin about March 1, and white clover to mature and be ready to yield nectar about June 15. In southern Missouri the dates would probably be two weeks earlier, and northern Iowa say two weeks later. Seasons vary from year to year, and crops mature fast or slow as the weather conditions may favor or not, yet each one can approximate very closely by a little observation and thought.

Having reacht the opening of spring the object is to get the colonies to breeding well so as to build up to good strength as soon as possible. If wintered in the cellar there should be hatching bees near March 1, and the same when wintered outdoors if the winter has been an open and warm one. Usually southern Iowa finds a little brood started in the center of the cluster by Jan. 10th or 15th in strong colonies, and by the middle of February in all fairly strong ones. Weak colonies that can not get up enough heat must wait till the weather is in their favor.

Thus it comes about that some colonies are away ahead of others in breeding up in the spring. Much depends upon how the colony goes into winter, whether weak in bees, or with plenty of strong, young bees, or old and feeble, etc. Two colonies may go into winter with an equal number of bees, while if one has many old and but few young, while the other has the reverse, the young colony will outlive the old, and care for more brood in the late winter and early spring.

Then, too, one colony may have sufficient ventilation to carry off surplus moisture, and the next one be poorly ventilated and become wet, weak and diseased. But whatever the cause that makes the colonies unequal when they start breeding in late winter or early spring, if they do not get an equal start they can not give equal results. Perhaps three things are in the main to blame for the unequal start, viz.: Going into winter in varied conditions as to age and numbers of bees; variations in ventilation, allowing accumulation of moisture, thus affecting the health and life of the bees; and, third, the disposition and proportion of honey, pollen and empty comb.

It is desirable and important to have the colony even and in normal condition in the fall and winter, if possible, and if so we may expect much the same in the spring. Should the colony come out at the opening of spring with but a handful of bees, or so few in numbers that they can not get and hold heat to hatch eggs and mature brood, all they can do is simply to wait for warm weather, and when waiting they often pass to the "long wait." I want a colony to have hatching bees by the time they begin to forage in early spring, for those young bees remain close to the hive and brood nearly all of the time, and very much help on the breeding work; but should there *not* be hatching bees when spring foraging begins, then the death-rate soon leaves the colony in that weak, waiting condition, and, no difference how good the queen, they *can not* increase.

BREEDING CONDITIONS.

As before stated, it is natural for the colony, with sufficient strength or number of bees, to begin breeding in January, at least early in February. Bees should be hatching by March 1. Spring opening about March 1, and young bees then emerging, the colony is practically safely wintered. Up to this time honey should be close to the cluster, and in very easy reach of the bees so they can have unsealed honey in the cluster at all times. After the weather is warm enough so they can almost daily get out from the cluster to uncap and carry in honey, it is not so important that the stores be in so close proximity to the cluster.

I take it that most locations have early pollen, such as maple and willow, also a little honey, too. That was the condition in the part of south Iowa in which I used to practice, and in such breeding goes on about as well if the colony be let alone, probably better, than if meddled with. They need the encouragement of warmth and a little fresh pollen, and, if *dry* and warm, breeding can not be much helpt by anything more we can do.

Should the location not have early pollen, and little or none is in the hive, then artificial pollen, such as flour mixt with bran, or chopt oats, should be placed in easy reach of the bees in the yard, or may be put right into a comb close to the brood. The thing that will encourage rapid breeding, if there is sufficient heat, is pollen and unsealed honey, and with these plenty of comb that the queen can freely use.

As the season advances and the colony begins to have so many hatching bees that the birth-rate is freely gaining on the death-rate, then is the time that one may spread brood *if it is done carefully*. The first act in that direction is to turn the combs rear end foremost, at least the ones containing brood. The brood-nest is almost invariably started *next* the *entrance*. If the combs containing brood be turned front end to the back, keeping them in the same position to each other in other respects, the brood now to the back and the *honey* to the front—thus arranged the honey will be removed from between the brood and the entrance, and placed *unsealed* close around and above the brood, and the comb from which the honey has been emptied will soon be occupied by brood.

This manner of spreading brood is quite safe—it is really causing the colony to do the spreading, and for stimulating breeding it is almost equal to a honey-flow. It also has this merit, that combs will be filled from end to end with brood instead of nearly every comb having the front end with brood and the back with honey.

Read this again, and think awhile over it—it is a valuable "kink." Larimer Co., Colo.

❧

California and Its Vast Honey-Resources.

BY RAMBLER.

WITH the rains that have fallen so bountifully upon our charming western country there is a markt revival of the hopes of our bee-keepers; and this hopeful influence must be exerting an influence upon the fraternity in the far East; for letters are dropping down upon us making all sorts of inquiries about this country, and just as tho we had never had a drouth.

It was naturally supposable that Cuba and the other islands that have been thrown open to the enterprise of our people would be the magnet to draw bee-keepers into new and untried fields; but it seems that, in spite of new domains and our dry seasons, California still has a magnetic influence; and as the aspects in the honey-business are rapidly changing in this State, it is no more than fair that we devote a little time and space to it.

I believe the boast has been made that California produces the largest honey crop of any State in the Union. I believe I have made some such remarks in the past myself.

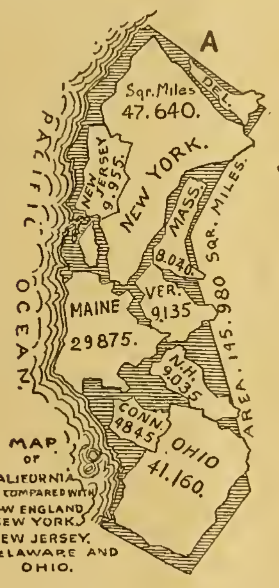
We can estimate quite closely, perhaps better than almost any other State, as to the annual product. Our honey is shipt over a few transportation lines, and all we have to do is to look into the books of said lines; and when the grand total figures up to 300 carloads, and in addition to this a large home consumption, perhaps we are justified in our boast for largest production, and may be further pardoned if we sail our hats a little when we reflect upon the long trains of honey that are leaving our State. But this exuberance is all the result of a good season, and we have to use this qualifying term, for we have our poor as well as good seasons.

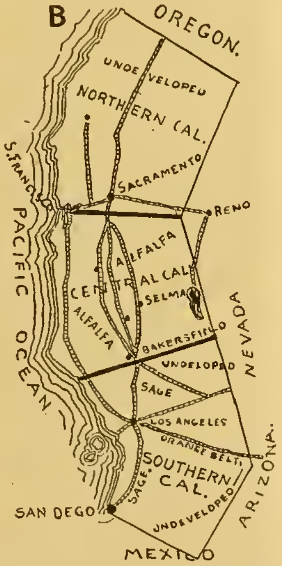
During the nine years I have been in Southern California, four of them have been total failures in honey-production, while two others have been a partial success, leaving three good years in nine. Therefore, taking the average production during these nine years, I have come to the conclusion that in a series of years California will make no better showing than some of the Eastern States. There is not much comfort in that for those who wish to come here to embark in the bee-business; but let us look at the map of California, and make a few comparisons, review a little of the past, look at the present, and deal a little in futures.

For nearly 800 miles the western side of California is white with the spray of the Pacific Ocean. Measure off 800 miles on the Atlantic side of the continent, and it would include all the coast from Maine to Georgia. In area it equals the ten far Eastern States, as shown in the accompanying cut. Thus far the honey-production in this vast area has been confined to a few favored localities, and there are wide stretches of country where a bee could not live; but the prospects are bright for these desert places becoming our most reliable honey-districts.

The history of the bee-industry in California is decidedly interesting, and shows many markt changes in the area of production; and those changes so favorably begun will go along with rapid strides. That the seeker for a good honey-location in this State may know just where to look, refer again to the maps. I have divided the State into three parts—Northern, Central and Southern.

The production of honey in California commenced in the Sacramento Valley, in the northern portion of the State.





As the resources of the State became more generally known it was found that the southern end was far the best for honey, both in quality and quantity, and in that portion the industry has reacht its greatest development, and the honey produced in the seven southernmost counties will ever hold the reputation gained for quality; for in no portion of the State is there the amount of various sages that are found here; and while the valleys have been put under cultivation, and the sages destroyed, the canyons and mountain sides are still its home, and there will always be very good pasturage, for the land can be used for no other purpose.

It is in this portion of the State where those phenomenally large yields have been produced; but we can refer to them only as phenomenal, for they seldom occur twice in the same locality. These phenomenal yields have always been within the sage-belt, and from that source; and it is safe to say that, in the production of quantities of pure sage honey, California has seen its best days—but not its best days in the production of honey, mind you.

Referring to the little map of comparisons, we find that California has a population of a little over a million, while the Eastern States of the same area have 16,000,000. It is a foregone conclusion that the waste-places in California will rapidly fill up with people, bringing changes in the products of the soil, and more of a diversity in the honey-resources and in the quality of the honey.

That the honey-resources of California are changing, and will increase to greater proportions than ever, can be easily demonstrated in Central California. In this portion of the State, where a few years ago the land was so barren that, upon hundreds of square miles, a bee could not live, there are now thriving farms and thousands of acres of alfalfa. Irrigation has made this great change. This area of alfalfa is now confined in a great measure to locations not at a great distance from the railroads. Outside of this area are thousands of square miles yet to be populated and brought under cultivation, and it is safe to say that alfalfa will be one of the principal crops.

We never hear of phenomenally large yields of honey in Central California, but they are blest with something better—no total failures. The honey-yield fluctuates more or less, as it does in all locations; but there is a reasonably sure income from the apiary every year; and the carloads of honey from Central California, which are already numerous, will steadily increase. In the eastern portion of the middle of the State we find Owens River Valley, not of great size. It is hemmed in by immense mountains, and here the bee-keeper produces alfalfa honey of the finest quality. Owing to location, or some other cause, the honey is of lighter shade than honey from the same source in other portions of the State.

The development of the honey-resources in Northern California has not kept up with the development in the south. It is a mountainous country; and in those portions where honey can be produced, the cost of transportation to market eats too much into the profits to make it a paying business at the present prices of honey. It is safe to say that there is an area in Northern California equal to the area of New York State, where there is not a carload of honey shipt; and where it is produced it is sold in the limited home market. It costs as much to ship honey from the Oregon line to San Francisco (a little over 300 miles) as it does from San Francisco to New York. There is a future, however, for Northern California honey-production. With more and competing lines of transportation, more settlement of waste-places, and more alfalfa, carloads will begin to move out. Many of our prominent bee-keepers, even in Southern California, see in alfalfa the great and permanent honey-plant of the future.

This great forage-plant is in direct accord with the interests of every agricultural community. Alfalfa first, cattle next, then the flowing of milk and honey, typical of the highest prosperity of a State.

California is justly noted for its immense fruit-industry, and much has been said about this source of honey. However, it cuts but a small figure. The time of bloom is of short duration, and the secretion of honey not abundant. The orange-bloom, where the trees are abundant, gives a fair surplus; but it would not pay for the bee-keeper to depend wholly upon that source alone for his living.

At present the best locations for success in honey-production in California are found all the way from the Sacramento Valley to San Diego; and the bee-keeper who intends to move to this State should write to the Chamber of Commerce in San Francisco and Los Angeles for literature giving much information about the respective ends of the State. In fact, it would be a good plan for almost anybody who would like to know more of the resources of this great State to send for this literature.

Then it would be a good plan for the emigrant, when he arrives, to take time to look the ground over. Ride by rail and wheel thru the central portion of the State. The largest alfalfa districts are between Fresno and Bakersfield. Two weeks' time could be profitably spent in looking this field over, and a longer time could be spent in Southern California; for you can see, by referring to the map, that the great State of Ohio covers only about half of this end of California.

When a location is selected it is of the utmost importance that the occupant of it make up his mind to like his new home, and laud it to the skies upon any and all occasions. That is always the first duty of all true Californians.

I am sorry to know that some people are always cursing their lot and their surroundings. Well, we want no such people here. Their somber souls would be sadly out of place in this God-given land of health and sunshine; and wherever a number of such people congregate, there you will find a dead town and a well-filled graveyard.

In thinking over the matter of a change of residence, do not hesitate on account of health or old age, for this is a healthful climate, and, as Dr. Gallup has it, "It is the old man's paradise."

Taking it all in all, the bee-keeping industry of California has a brilliant future; and all the present members of the fraternity have to do is to stick to the business and hasten the day of great prosperity.—Gleanings in Bee-Culture.

Los Angeles Co., Calif.

CONVENTION PROCEEDINGS

Report of the Colorado State Convention.

[Continued from page 118.]

PACKAGES FOR EXTRACTED HONEY.

Mr. Pease—Tin packages can be used again. The fiber package can not. Mr. Doolittle advises wooden boxes.

Pres. Aikin—I don't know anything about them from experience.

Mr. Root—I think a lithographt label is so much more attractive than the printing on the fiber package that it would pay the difference in price.

Mr. Porter—There has been some talk of a uniform package for extracted honey. If enough would use them, it might pay to have a stamping machine of a certain size.

[The secretary has lookt up this matter, and found that the dies and other machinery for making 10-pound tin honey-packages would cost about $300, and for making 5-pound packages about $200.]

H. Rauchfuss—One man should put up the honey to get it uniform. A uniform package of honey would drive corn syrup out of the market; 35 cars of corn syrup a year are used here.

SECOND DAY.

Mr. Lyon thus introduced this subject:

OVERSTOCKING OF LOCALITIES:

There is no question that there is great danger of overstocking a field. Locality and the man have everything to do with it. A man capable of caring for bees as he would care for other things will not feel the overstocking as another would. Wintering has a good deal to do with this question. Our winters here are hard, and we have sunny days that encourage the bees to fly to their detriment. It would pay to close up the hives if it could be done at all. Fifty percent of an apiary was lost at Longmont last winter. The cover was sealed down, and the moisture could not escape. A few years ago a man moved his bees to a quarter of a mile from mine, and got no crop of consequence. It is the same as with cattle; there is such a thing as overdoing. I have not hitherto kept over 125 colonies in one place, but next season I will try 150 or 200. It will save the expense of one man. But we can not be too careful of overstocking. There is no question there is room for all. If one sees his neighbor getting a good crop, it is folly to move in close to him. The man that gets his bees in shape to gather the nectar will get the honey.

Mr. Moon—There were two apiaries, one a mile and one a mile and a quarter from mine, and the crop is better since they moved off. I have 330 colonies in one apiary, and there are 100 more within a quarter of a mile. But there are immense quantities of alfalfa and sweet clover near by. My crop this year was 865 cases, the largest crop I have had, from about 275 colonies, spring count.

F. Rauchfuss—Mr. Moon keeps more bees in one place than any other person in Colorado.

Mr. Lyon—Wouldn't Mr. Moon get more if he kept his bees in different places? I received one-third more by dividing up.

Mr. Thompson—Within a radius of a mile or so, or a circle of something like two miles in diameter, perhaps 2½, there are some 700 or 800 colonies at the town of Montrose. Wm. Willis has 60 or 70 colonies right in the midst of them, and gets a bigger average than any of the others. George Hone has about 270 colonies in his home apiary, and about 240 colonies in his out-apiary, about a mile and a quarter distant, and there are a number of colonies in the neighborhood. He thinks his region is somewhat overstockt, but he gets fair crops. He is considered a good bee-keeper. Mr. J. R. Penniston evidently thinks his locality is overstockt, for he is thinking of selling 40 of his 60 colonies and getting as much honey from the remainder of 20 as from the 60. There are about 100 acres of alfalfa accessible, and a total of 100 colonies in the neighborhood, including his own.

H. Rauchfuss—In this locality it is hard to keep up the number of colonies in an apiary when it exceeds 75 or 100. Before they reach that number, they increase; afterwards, they do not. I believe an alfalfa locality is easily overstockt. Sweet clover is better. Last year we had hardly any honey from the first crop of alfalfa at a time when bee-keepers close to the foothills were getting a fair flow. One year the flow commenced June 25 and stopt July 9. If sweet clover had been in the locality it would have continued. It was not because the alfalfa was all cut; 80 acres remained uncut after that, but there was no gain.

J. B. Adams—I believe the reason a large apiary does not increase here is that the yield from apple-blossoms is very light.

Mr. Lyon—Believing my locality was overstockt, I moved to Longmont. That shows my faith in the possibility of overstocking. We are just on the point of overstocking at Longmont.

H. Rauchfuss—Along Bear Creek there are 2,000 colonies within seven miles, including several large apiaries. The cultivated portion is not seven miles wide, and there is much barren country included. But it is an exceptionally good locality. There is much sweet clover, and the foothills, which furnish spring flowers, are close.

F. Rauchfuss—I think Mr. Adams is right—we can not breed up our bees in the spring in the average alfalfa locality here. That is seen by comparing the apiaries east of Denver with the bees at the foothills. In regard to overstocking, the bee-papers have been making various allusions to the large unoccupied fields of Colorado. All the good fields within easy reach are occupied. Only about one-twentieth of the area of the land is in alfalfa, and only in 14 counties, principally in the valleys of the Platte, Arkansas, Grand, Gunnison and Uncompahgre. The biggest portion of Colorado is unfit for bee-culture, owing to a wide area of high mountains and desert lands, fit only for grazing.

Mr. Porter—At Lakewood there are at least 800 colonies within an area of 2½ miles square. The yield is not so good there as five or six years ago, altho sweet clover has increast.

H. Rauchfuss—In former years it seemed as if alfalfa yielded more than it does now.

Ch. Adams—One reason is that hay is cut earlier than then.

One year there was a great deal of bloom, and I could not see more than a dozen bees on it. My average was 17 pounds.

Mr. Lyon—Another very important reason has not been taken into consideration. There are ten bees now on the flowers where there used to be one. That depends upon the *strength* of the colonies—that is the *man* part of it. It is true that alfalfa does not yield some years as it does others.

Mr. Porter—The dairy interests affect the alfalfa around Denver, and in the northern part lamb-feeding, which has assumed great proportions, requires tender alfalfa, cut early. The main point is the grasshopper. Take away the grasshopper and you will double the yield. It prefers the bloom.

A Member—The grasshoppers eat the alfalfa which is left along the ditches, and the sweet clover also.

Pres. Aikin—I never cared to have more than 100 colonies in one place, partly because the robbing is much worse in a large apiary, and also the annoyance in working among the bees. I prefer a small apiary. I think Mr. Lyon put it mildly. There are probably 20 bees now where there was one formerly. The farmers cut later this year in my locality, and my crop was better. The first year I had the best flow, and the bloom was continuous. I can almost time the flow to a certainty by the amount of hay cut. I seldom get any from the second bloom. At present, the farmers aim to cut it just as it is in bloom. Last year there was an abundance of moisture in my locality when it was dry here, and the result was, the farmers got behind in their work, and there never was such a good flow as this year, because the alfalfa never had such a chance to bloom. Three or four years ago there was lots of bloom, but little honey. There were black spots on the leaves. One season there was a large amount of web-worms, and if the grasshoppers commence the flow is no good. Overstocking, therefore, is not all. Mr. Farr told me he kept a large number of colonies in one place in Utah, and could not see that the yield was reduced enough to pay to divide. For some reason in Iowa the flows dropt off. The bees decreast so there are not nearly so many, but to-day they don't get the yield they used to.

Mr. Lansdowne—I agree about the grasshoppers. One year I sowed alfalfa with wheat, and the grasshoppers ate it all off.

Prof. Gillette—I think the damage from grasshoppers is overestimated. When they are not very abundant they eat about the borders of a field, and make quite a show of damage. There is no better method of destroying them than to use the hopper-dozers or pans, or the plow, or cultivate in spring; altho a bran-mash of one pound of arsenic to six pounds of bran, with water, around the borders of a field, is good.

H. Rauchfuss—That is just where we don't want them to eat. That is where the alfalfa and sweet clover is not cut by the mower; there, and along the ditches. But last year we had hardly any grasshoppers, and still the flow was not good until the latter part of the season.

Prof. Gillette—I think they injure the sweet clover as much as the alfalfa.

Ch. Adams—That bran-mash is pretty strong. Around Greeley I used a small handful of arsenic to half a bushel of bran, with a very little water; otherwise they would not eat it.

Prof. Gillette—The proportion I mentioned always seemed to me very strong. It was used originally with white arsenic, which is tasteless.

J. B. Adams—I used one to two pounds of bran, with black molasses. It did the business. They ate it all up.

USE OF SEPARATORS.

Mr. Tracy—I use one or two separators in a super, and believe in using as few as we can. We want our sections to weigh as nearly a pound as possible. You will not find many combs built crosswise where there is a separator to every three rows.

H. Rauchfuss—I want a separator between each two rows. Bees don't seem to enter a super as readily when separators are used, but they work just as readily after they are started. Separators make the number of unfinisht sections less; and when full sheets of foundation are used, and one drops, only one section in a row is spoiled, when separators are between each two rows. Then no combs project, and much time and annoyance is saved in getting the honey into the shipping-case. If the colonies are strong enough to enter a super all at once, they will build straight combs without separators, but if they enter on only one side, they will not.

Mr. Tracy—I don't care if my honey is not all capt. I am surprised at such a bee-keeper as Mr. Rauchfuss taking the stand he does.

H. Rauchfuss—I wouldn't care to do any extracting from unfinisht sections; and old combs don't make first-class comb honey the next year. Last spring I didn't use more than 50 old sections.

Mr. Allen—I have used separators, and found many combs fastened to the separators. I have concluded not to use them. I found, too, that the combs were thinner, and scant in weight. Then separators take up more work and time to put them in.

F. Rauchfuss—Have you ever observed at what stage of comb-building the attachments were made to the separators?

Mr. Allen—No.

F. Rauchfuss—In the majority of cases those connections are made after the comb is finisht and sealed, showing that if the honey had been removed when it should have been, there would have been no such trouble. In one instance last season a bee-keeper had such connections made to his separatored honey, but the braces were attacht to the capt comb, showing they were built after the honey was sealed. The same man had another lot of supers without separators, but the honey in them was unsalable. He used only one super on a hive at one time. That explains it.

H. Rauchfuss—More depends upon the management than upon the bees, in this respect. If only a small starter is used, many sections will be spoiled when no separators are used. Out of 350 cases of comb honey that I produced last season with separators and full sheets of foundation, not one section was "tied" to the separator. In one lot of 25 supers only two sections were spoiled, and that was because the foundation had dropt.

Mr. Lyon—I would not use one separator. I can produce better honey without.

F. Rauchfuss—Why?

Mr. Lyon—Because with separators honey can not be produced heavy enough to suit the Eastern market.

F. Rauchfuss—Here is a quotation from a letter from Peycke Bros., who last year handled over 20 cars of honey:

"We notice that you demand average weight on No. 1 comb honey should be 22 pounds net. Our experience has been that where separators are used (and we advise that the use of these be made one of the most stringent rules of the association) it is not an easy matter to reach the 22-pound average weight; but with our extensive trade, which reaches all thru the Eastern States, we have never found any objection to light weight. We had several cars out of Utah last year which averaged from 20¼ pounds to 21 pounds per case, but the honey was so perfect and so pretty that it took the preference over everything else that we had. We consider it of much more importance that each section is perfectly filled than that the comb should be thick. By this, of course, we do not mean to say that we favor a reduction in the size of the present section."

Mr. Lyon—I have had as large a correspondence with the East as any one except the secretary, and can say that my experience is different.

Ch. Adams—I got a letter from Kansas City which gives the same advice as given by Peycke Bros.—"Be sure to produce honey with separators." Bees will gather as much honey with separators as without.

F. Rauchfuss—Another dealer corresponding with reference to one or two cars requested *only* separatored honey. Another firm, in Pennsylvania, also preferred separatored honey, and was rather partial to the lighter weight.

Mr. Lyon—As a rule, the average bee-keeper produces better honey with separators.

Mr. Whipple—I have had the best satisfaction with separators, tho this year I had more combs than usual fastened to them. The standard sections will be light, it is true. I ordered some 1 15/16 sections, and found that every time a case would average 24 pounds net. But the honest weight doesn't cut any figure. I use separators all the time, and have adopted the standard 1⅞ section, and get the same price. I'm no worse than anybody else.

Mr. Tracy—The first 24 cases of mine weighed only three pounds less than enough to make an average of 24 pounds each.

Mr. Whipple—I weighed 15 cases of mine this year, and they overran 22 pounds net. The buyer said that's good enough.

I am pleased with the Golden method. From three colonies I took five supers of 28 sections each.

Pres. Aikin—When I first came to Colorado the flow was the best, and I averaged 150 pounds. I used two separators to every 10-frame super. For that rapid, heavy flow, two separators were enough. But in general, not half the bee-keepers can pull out sections where no separators have been used without damaging them; and if this is so, only a small percentage of *dealers* can. I handled this year a carload of comb honey besides my own. The buyer said, "Produce with separators all the time." He went out to see one man's honey produced without separators, and tho he wanted all the honey he could get, he told him to sort out only the best, and he would give him $2.15 a case for it. It is not a question of weight. The reason we use separators is to have the honey within the wood. Another reason is, the retailer must handle something which preserves the average weight in each section. True, a little more room is needed, but that cuts no figure when you get 25 or 50 cents a case. In a good honey-flow the honey is uniform, and *then* almost every fool can produce a good article. In a slow, light flow the case is different. The buyer told me I could have all I could make over 5 cents in handling one lot produced by weak colonies without separators. Somebody said some colonies produce burr-combs and others do not; but when any colony is crowded in the flow, that non-burr-comb strain is going to build burr-combs. If an honest section is wanted, make a larger section. When the separator does not come within ⅜ of an inch of the bottom or top of the section, and the colony is crowded, or the flow slow, the bees will extend that part of the comb above and below the separator. Separators are all right when one knows how to use them, and they make the proportion of finisht sections larger.

J. B. Adams—Do you prefer wood or metal separators?

Pres. Aikin—There is not much difference.

Mr. Whipple—I sell my honey more readily by using separators than I can without. The parties that buy to retail prefer the straight combs.

Mr. Porter—In the sales this year the buyer did get all the non-separatored honey, but that was because of the scarcity of honey.

Mr. Whipple—I got $2.40 a case for an average net weight of 22 pounds, in the early part of September.

[Continued next week.]

The Premiums offered on page 142 are well worth working for. Look at them.

AMERICAN
ESTABLISHT IN 1861 OLDEST BEE-PAPER IN AMERICA
BEE JOURNAL.
DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS.

PUBLISHT WEEKLY BY
GEORGE W. YORK & COMPANY,
118 Michigan Street, Chicago, Ill.

[Entered at the Post-Office at Chicago as Second-Class Mail-Matter.]

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GEORGE W. YORK.

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IMPORTANT NOTICES:
The Subscription Price of this journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "Dec00" on your label shows that it is paid to the end of December, 1900.

ubscription Receipts.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows you that the money has been received and duly credited.

Advertising Rates will be given upon application.

VOL. 40. MARCH 1, 1900. NO. 9.

EDITORIAL COMMENTS

NOTE—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

A World's Congress of bee-keepers will be held in Paris, France, Sept. 10, 11 and 12, 1900, during the Exposition. Our National Bee-Keepers' Association should be represented. The delegate might be selected at the Chicago convention, next August. We nominate Mr. C. P. Dadant. He, no doubt, would be willing to bear a good deal of the necessary expense in order to have the privilege of visiting his native land. And he would be an excellent representative of the bee-keepers of the United States.

The Bee-Column in an Agricultural Paper is sometimes a good thing, and sometimes it works mischief. Depends upon who takes care of it. An agricultural paper of good standing to hand has for spring the unqualified advice, "The hives should be lookt over and the weak colonies fed." Saying nothing about looking over "hives"—colonies no doubt being met—suppose the owner of bees tries to follow the advice, and finds a colony that plainly has hardly half as many bees as the other colonies. He says to himself, "That's a weak colony, and it must be fed." So he feeds it, regardless of the fact that it already has more food than it can possibly use, doing more harm than good by its disturbance.

"A well arranged apiary that is simple and convenient is thus described by an Illinois subscriber;" and then follows a description so complicated that this deponent cannot make it out.

Five reasons are given for keeping bees, the first being that bees "work for nothing and board themselves, only requiring a house to live in," with no hint that they require any care or labor on the part of the bee-keeper. The third reason for keeping bees, "Because honey is the only product on the farm which will not only spoil if not hurried to market." Must be that writer thinks grain is raised only in elevators!

Horseradish for Bee-Stings is spoken of in high terms in several of the foreign bee-journals. Bruise the leaves and apply the juice to the wound. It is even said that if the hands be well rubbed with horseradish juice it will prevent their being stung.

The National Bee-Keepers' Association is the organized body of bee-keepers that now stands to defend bee-keepers and bee-keeping against adulteration and wrongs of other kinds; the amalgamation of the two old societies being now an accomplisht fact. The present Association is stronger by 63 names than either of the old ones was, and its future is bright with promise; there being now no divided interest, it becomes every bee-keeper to throw in his influence and his dollar. Whether you are a member or not you will undoubtedly be benefited by the work of the Association, but the benefit will be vastly greater if *each* bee-keeper joins. Send your annual membership fee ($1.00) to the Bee Journal office, if more convenient, or to General Manager Eugene Secor, Forest City, Iowa.

Early Orders for Bee-Supplies usually receive the most prompt attention by the dealer. Many bee-keepers wait until the last minute, then order by return freight, and if they don't get the goods at once, feel greatly disappointed. Now, one who stops a minute to think, would see that no dealer can fill every order the same day it is received.

The best way is to order early, so as to avoid any possible rush later on that might cause vexation and loss to the bee-keeper.

In many instances, of course, one cannot know exactly what will be needed very far in advance of the season; in such case we would suggest that at least some of the goods be ordered early, and, if it is found that more are needed, then order again.

Many bee-keepers will also find that if they have their supplies on hand early, they can put in some time at odd hours in getting them all ready for use, so that when the time comes to use them they won't have to stop other important work to get things in shape.

Suppressing Hives.—In one of the bee-papers a query appears about a certain hive which has not been pusht to the front as have some others. It is insinuated that certain other hives were prest upon the bee-keeping public to the exclusion of the one in question. Now, that was really too bad, wasn't it? Just to think that any one would try to get every bee-keeper to use a certain kind of hive in preference to a certain other kind!

One might as well ask why any one of the numberless dead bee-papers weren't pusht on to success by those already establisht. We are not of the kind that expect that our bee-paper competitors are going to work very hard to make the American Bee Journal a success. That is what *we* are here for. Neither should any one expect that every manufacturer is going to turn in and push some other hive than his own. The manufacturers are not in business simply for their health, any more than bee-keepers produce honey just for fun.

The Western Bee-Keeper was the name of a new bee-paper started in the West a year or so ago. We learn that it has recently turned its subscription list (?) over to the Progressive Bee-Keeper. We did not announce its advent, as we failed to see wherein it had sufficient merit. It certainly was no credit to the printer's art, and we failed to see where it could be of much advantage to anybody—not even to its publisher. This latter opinion has now been verified, by its giving up the effort.

There is generally an amusing feature connected with the starting of new bee-papers. They usually want to *exchange* advertising space with the old and establisht papers, instead of paying cash for it as do others. Of course, the Western Bee-Keeper followed that rule, and when the application was received here, we simply quoted regular advertising rates, and that was the last heard from that quarter. They had practically nothing to give in return on an exchange basis, and certainly could not afford to pay cash for advertising a new paper of so little merit.

While it really is none of our affair, we can't help feeling sorry for the poor, misguided people who think there is money to be made in publishing new bee-papers. In about forty-nine cases out of fifty they have proven to be a delusion and a snare. But we presume we shall see new bee-papers in the future as in the past—with about the usual result.

Reformed Spelling seems to stir up some people to a paroxysm of foaming and frothing that is fairly amusing. A friend sends a clipping from the Daily Telegraph of Philadelphia for Feb. 5, and among the pet names applied to the reform are, "craze—delusion—ridiculous—deformed—absurdity—silly impertinences." The Telegraph says: "Some journals which otherwise are beyond reproach are found to be so injured by it as to have their usefulness seriously impaired." Doubtless the usefulness of the American Bee Journal is so seriously impaired by an occasional word changed in its spelling that its readers will not be able to secure as much honey as they otherwise would!! The way to be certain to succeed with bees is to take a paper that puts *ugh* on *tho*, and *ue* on *catalog*. The flowers will yield nectar then!

The Weekly Budget

Mr. O. O. Poppleton, writing us from Dade Co., Fla., Feb. 13, said:

"This has been a very hard winter on bees in Florida, so far as I can hear. One of my apiaries is doing first-class, one very good, and two very poorly."

* * * * *

Mr. A. H. Cowan, eldest son of Editor Thos. Wm. Cowan, of the British Bee Journal, was married Jan. 9. Mr. Cowan has a fruit-farm in Placer Co., Calif., where he lives. The American Bee Journal wishes the happy couple a long and blissful life.

* * * * *

Prof. A. J. Cook, of Los Angeles Co., Calif., under date of Feb. 14, wrote as follows:

"The outlook for the season in Southern California is not at all encouraging to the bee-keeper, or even to the general farmer. While we have had almost as much rain as we had during the entire season of a year ago, we yet need a great deal more for a successful year. Northern California has had fine rains. The southern part of the State is in sore need of many and copious showers which must come within two or three months. Usually there are huge banks of snow on the tops of the mountains, while now there are almost none. We are all hopeful that we shall yet have the rains so much needed to bring the usual success to this end of the State."

* * * * *

The Wisconsin Convention Photograph, taken by W. Z. Hutchinson, is ready for delivery to all who desire it. It is 8x10 inches in size, mounted on a 10x12 heavy cardboard, and will be sent postpaid for 75 cents. It is one of the best and clearest convention pictures we ever saw. If you wish a copy of it, send the above amount to W. Z. Hutchinson, Flint, Mich.

* * * * *

The Elkhart Carriage and Harness Mfg. Co., of Elkhart, Ind., have issued one of the best catalogs for 1900 that have come to our desk. It contains 144 pages and cover. Practically every page is illustrated, showing their excellent vehicles and harness. This is their 27th year. Better send your name and address for their catalog, not forgetting to say you saw their advertisement in the American Bee Journal.

* * * * *

Dr. E. Gallup, of Orange Co., Calif., we notice by a markt newspaper item received last week, has just lost his wife and infant child. The death of the mother was a peculiarly sad one, tho no possible means were neglected to avert the sad ending, three skilled physicians being in attendance. Our sympathy, as well as that of bee-keepers everywhere, will go out to Dr. Gallup in his deep sorrow.

* * * * *

Mr. John F. Crowder, of Fresno Co., Calif., says the Tulare Advance, is perhaps the most extensive bee-keeper in Central California. He has about 3,000 colonies of bees in all. These he has divided into apiaries of about 300 each. His 10 apiaries are located usually about three or four miles apart, and are within a radius of from 10 to 15 miles of his home. Mr. Crowder started about six years ago with 25 colonies. By careful work and much study he has been able to build up what is perhaps the largest bee-business controlled by one man in the United States. He employs quite a number of men in his apiaries, and keeps them up in just the right shape. He produces principally extracted honey.

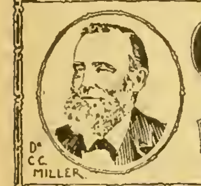
* * * * *

Hon. Eugene Secor is the president of the Winnebago Co., Iowa, Farmers' Institute. He has mailed us a copy of the program of their fourth annual meeting, which was held Feb. 13 and 14. On the last page of that program we find the following, which is well worth your reading and heeding, tho it is not exactly on bee-keeping:

"Agriculture is the oldest employment of man, but it does not follow that there is nothing to be learned in farming. It is not one of the exact sciences, for climate and other ever-varying conditions require varying methods and practices. What is best in one locality may not be in another. The annual rainfall, extremes in heat and cold, distance from market, kind of soil, etc.—all have an influence in determining what our farming practices should be if we would obtain the best results. There are many problems of agriculture not yet solved. If we are satisfied with ourselves, and believe that the practices of our forefathers can not be improved upon—that there are no better ways, no better implements, no better crops than they knew, then there is no reason to read, study or watch what our wide-awake neighbors are doing. But if we think there is room for improvement in our county we ought to use every means to that end. The highest farming requires as much brains and study as any other calling. The farmer should not regard his work as beneath that of any other station on earth. And he should pursue it so intelligently and skillfully as to command the respect due to him. He should be a student. He should avail himself of every help. The county institute was created by law to increase your interest and efficiency in agriculture. Whatever does that should also increase your wealth and happiness. Attend the Farmers' Institute. It is planned for your benefit."

After all, what is good advice for the farmer is pretty good for the bee-keeper also.

Queenie Jeanette is the title of a pretty song in sheet music size, written by J. C. Wallenmeyer, a musical bee-keeper. The regular price is 40 cents, but to close out the copies we have left, we will mail them at 20 cents each, as long as they last. Better order at once, if you want a copy of this song.



QUESTIONS AND ANSWERS.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Buying Bees or Rearing Them.

Which would be the cheaper to stock an apiary, buy the bees or buy sugar and rear them? I have been reading bee-papers and books a year, and have an idea I could rear them cheaper, but I would like to know what you think. TENNESSEE.

ANSWER.—You can probably buy sugar and rear bees for less than you can buy them, altho of course that depends upon what you have to pay for the bees; but a still cheaper way would be to rear the bees on natural stores without buying sugar.

Uneasy About Bees in the Cellar.

Please give me some advice in regard to my bees that are in the cellar. This is the first that I ever wintered them in the cellar, and I don't know whether they are doing well or not. My cellar is under the dwelling-house, and is in clay soil, and I think is rather damp. I have to build a fire in it in cold weather to keep the temperature up to 45 degrees, and I have kept the dead bees swept up clean. The bees seem to be doing very well with the exception of one colony which has dysentery, but not very bad. I have 50 colonies in the cellar and eight on the summer stands. INDIANA.

ANSWER.—From what you say, you are probably managing all right. See that the air of the cellar is kept pure, opening the door or window any night that is warm enough. It is not long now till bees in Indiana can be put on the summer stands, and a flight will cure the diarrhea promptly.

Honey Taffy—Clover for Lawns.

1. How can I make honey taffy or candy? I tried several times to make honey taffy, and every time it gets dark and tastes as if it was burned, but it can't be burned as I am very careful that it doesn't boil fast.

2. I sowed grass seed on my lawn and most of it turned out to be weeds. I was told then by a friend bee-keeper that if I would sow clover seed on the lawn it would kill all the weeds and make a fine lawn. I want to know whether this is true, and what kind of clover seed would be the best. NEW JERSEY.

ANSWERS.—1. If you will pardon the statement, the probable truth is that you did burn it after all. Honey is very easily burned, and doesn't need to boil very fast to be burned. The whole secret is to cook it very slowly. Don't put it on too hot a place on the stove.

2. It's asking a good deal of clover to kill out weeds. Still, it may do so, especially if the weeds are mowed down occasionally as short as the clover. White clover is the best clover for a lawn.

Bees Killing Off Each Other—Shavings to Absorb Moisture.

1. My bees have been fighting for the last week or ten days. They have killed off a good many. There will be a bunch of bees in two or three places on the alighting-board, and as soon as they kill one they jump on another. They have plenty of honey. My neighbor's bees are doing the same thing, and when the weather is so bad they can't fly, they are fighting just the same at the entrance.

2. My hives are on the summer stands in winter, and in spring, when I open them, I find them very damp inside. Would it do to fill a super with dry pine shavings, and put it on to take up moisture? OREGON.

ANSWERS.—1. With no further information, it is hard to tell what is the trouble. It may be a few robbers are trying to obtain unearned treasures, and are taking their punishment therefor, and if the number is not great it doesn't signify. It may be that bee-paralysis is present, and the well bees are getting rid of the sick ones. If the persecuted bees are robbers, they are very alert, trying to escape, and generally succeeding in escaping, from their tormentors. If the worried bees are sick, they appear sluggish, making little attempt to escape, perhaps swollen, shiny, with a trembling motion. As far north as Oregon paralysis ought hardly to be a very serious matter. In either case, if the colonies are strong, you will probably find matters mended as soon as good weather for flying comes.

2. Yes, planer shavings are the kind to use, as ordinary bench shavings made by a carpenter with a hand plane do not pack close. Some practice putting hot bricks on top to dry out when a warm day comes, and opening up a little at such a time helps to dry out.

Unslackt Lime for Dampness.

I have about 50 colonies of bees in the cellar under the house and it is rather wet. Would it do any harm, or injure the bees, if I put chloride of lime in the cellar? WISCONSIN.

ANSWER.—Common unslackt lime will cost less and will be better.

Swarming and Producing Comb Honey—Italianizing.

1. I have two colonies of Italian bees, and I wish to run them for comb honey, and still get one or two swarms from each. I also have three colonies of blacks in box-hives, and I wish to put them in movable-frame hives, and let them swarm. How many times should I let them swarm in order to get the best results. My desire is to run for comb honey exclusively.

2. Would you Italianize the blacks, or let them be till in the fall? CALIFORNIA.

ANSWERS.—1. Certainly don't let them swarm more than once if you can help it. Put the swarm on the old stand with the mother colony close beside it, moving the mother colony to a new stand a week later. Perhaps you will do as well to leave the blacks in the box-hives till they swarm; then treat them as mentioned.

2. It will probably be as well to wait till near the close of the harvest.

Fence Separators—Cause of Bees Perishing.

1. Are fence separators intended to be used with plain sections only, or will they do with any style of section?

2. I am wintering my bees outside, packt with sawdust and chaff cushions on top, and I notice that the bees in one or two of my colonies persist in flying out, and of course perish in the snow, while the rest are quiet. What is the probable cause, as they have all first-class stores? ONTARIO.

ANSWERS.—1. Fence separators may be used with any kind of sections, but separators suitable for the plain sections will not do for sections with insets. For the latter, fence separators must be differently constructed.

2. Hard to tell. The difference may be in the bees themselves. Some bees seem more uneasy than others under like circumstances. It is possible the sun shines more freely into some hives than into others. It is not a bad plan to put a board in front of the entrance at a time when bees fly out to their detriment.

Italianizing—Distinguishing Queens.

1. I have 18 colonies of bees, partly Italians and partly blacks. Would it be possible for me to kill the old black queens when they swarm and put in a laying Italian queen instead, when I hive them, with any degree of certainty? Or, would it be better to take the nucleus that the Italian queen was reared in, and hive the swarm with it?

2. And what would be the best to introduce in the parent hive (the hive the swarm issued from), a laying queen, a virgin queen, or a ripe queen-cell, after cutting all the cells out of the hive and being sure there are no virgin queens present in the hive?

3. Is there any way of telling a three-banded queen from a five-banded one, before they have any bees hatcht from their eggs, supposing, of course, they are purely mated? I don't think there is, but my opinion doesn't amount to much. ILLINOIS.

ANSWERS.—1. It would be safer to let the swarm run in with the nucleus, of course first killing the old queen.

2. It would be largely a matter of your own convenience, either one being all right.

3. Your opinion is all right in this case, at any rate.

"**The Hum of the Bees** in the Apple-Tree Bloom" is the name of the new bee-keeper's song—words by Hon. Eugene Secor and music by Dr. C. C. Miller. This is thought by some to be the best bee-song yet written by Mr. Secor and Dr. Miller. It is, indeed, a "hummer." We can furnish a single copy of it postpaid, for 10 cents, or 3 copies for 25 cents. Or, we will mail a half-dozen copies of it for sending us *one new* yearly subscription to the American Bee Journal at $1.00.

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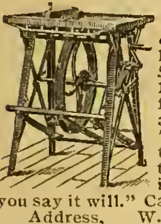

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GENERAL ITEMS

Bee-Keeping in Oklahoma.

I am trying to interest people here in bees and honey, but I find conditions, climatic and otherwise, somewhat against me. I have had bees here five years, and I know they will do well if handled properly. They require to be fed and strengthened up very early in order to store any surplus. Bees must be in condition to store honey here, by May 1. One colony last season stored 48 finisht sections, while no others completed a super full. I find bees will empty unfinisht sections if they are scraped with a knife.

Bees are now in good shape, and have flown every week this winter. I hope for a good season this year. F. VAN DE MARK.
Payne Co., Okla Ter.

Fears a Dread Bee-Disease.

I notice on page 100 an article by Abel Gresh, stating that he has amongst his bees a disease which seems to be similar to the New York bee-disease. I was quite alarmed to note this fact and desire to investigate the matter thoroly if I can possibly do so.

I have noticed a peculiar odor about my bees ever since they were placed in the cellar, and did not know what to attribute it to, and in fact do not yet know whether it is a real or an imaginary odor. Will some of the readers of the "Old Reliable" please inform us as to its peculiarities?

Do bees affected with this disease give off a different odor when placed in the cellar? Is cellar-wintering favorable to its spread?

Come, let's rouse up and find out what this disease amounts to, and to what extent it has already spread. I fear that it has gone to far greater proportions than any one thinks.

I would like to be prepared to fight this disease when it first makes its appearance, if it comes here, and so would a host of other bee-keepers in New York and Pennsylvania.

I am getting somewhat alarmed over the matter, and do I not have good reason for it? Most certainly. Are not my future prospects at stake? If the disease should ravage my bees would it not deprive me of my only source of income? Are these not good reasons for being alarmed? I think I have good reasons for sounding a note of warning.

There has never, since I have kept bees here, been any disease to bother me, and I fairly tremble at the thought of having to encouncter this new malady. There is but one way out of it, and that is to stay at my post and be prepared to defend myself against its ravages. G. F. TUBBS.
McKean Co., Pa., Feb. 15.

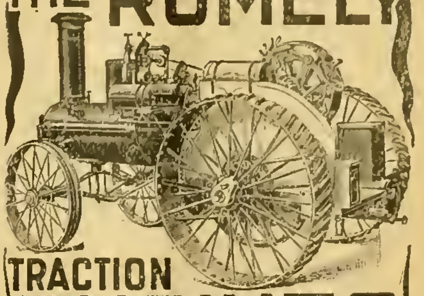
Hunting Wild Bees.

I want to add my experience in hunting wild bees, to that of Massachusetts as given on page 86. I hunted bees a good deal in my younger days, having found many a bee-tree, and have caught bees from the wild flowers late in the summer and in early autumn, and set them at work from the stand. I have smudged or burned honey-comb after the frosts had killed all the flowers; have lined them and cross-lined them; have moved them several times where they went long distances; have moved them beyond the tree, and of course have watcht them; I never had any trouble about their coming back; only these two things I have noticed:

In the first place, it takes longer when you go beyond the tree to get them started, than it does while tracing the line: in the second place, my observation has been, after leaving the stand on which the bait

Sharples Cream Separators; Profitable Dairying

THE RUMELY



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The Rural Californian

Tells all about Bees in California. The yields and Price of Honey; the Pasturage and Nectar-Producing Plants; the Bee-Ranches and how they are conducted. In fact the entire field is fully covered by an expert bee-man. Besides this the paper also tells you all about California Agriculture and Horticulture. $1.00 per year; 6 months, 50 cents. Sample copies, 10 cents.

THE RURAL CALIFORNIAN,
218 North Main Street, - LOS ANGELES, CAL.

5 Cents Each for Names.

State where you saw this ad, send 15 cents and the names of 2 neighbors who raise poultry, and we will send you, for one year, our monthly paper containing 20 or more pages each issue. A 224-page complete poultry book sent free if you send 10 cents extra.

Regular price 25 cents a year. Sample copy free. INLAND POULTRY JOURNAL,
40Ctf Indianapolis, Ind.

SPRAYING with our new patent **KERОSENE SPRAYERS** is simple indeed. Kerosene Emulsion made while pumping. 12 varieties sprayers. Bordeaux and Vermorel Nozzles, the World's Best.

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BEE-SUPPLIES 40-page CATALOG FREE. Goods are the BEST. Prices are right. We can save you some on freight. Enquire of us.
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WHAT'S 3 OR 5 CENTS
on a rod of fence if it is 10 cents better in quality?
PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.

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THE ILLINOIS 100. EGGS

HATCH AND BROOD your chicks with machines that leave no doubt of success. A simple, durable and perfect machine is the

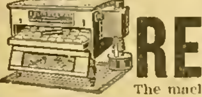
ILLINOIS.

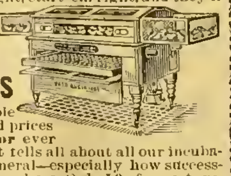
Made in several convenient sizes, from 50 egg up. Impervious to sudden changes in temperature, Packed with asbestos and covered with iron. Can't shrink or warp or burn from lamp explosion or super-heating. Don't buy an incubator or brooder until you get our Free Catalogue.

J. H. JONES, Box 119, STREATOR, ILL.
Please mention Bee Journal when writing.

A START IN LIFE!

Everybody realizes its importance. Don't deny it to your chicks. Hatch 'em right, start 'em right, and they'll pay you back all right. The best way to hatch chicks is with the famous





RELIABLE INCUBATORS AND BROODERS

The machines which have satisfied more particular people than any other machine made. They hatch every fertile egg. All sizes and prices Our $5 BANTLING SPECIAL. 50-egg size, is the best small incubator ever sold at a low price. But send for our great 20TH CENTURY POULTRY BOOK it tells all about all our incubators—all about our poultry supplies, and all about the poultry business in general—especially how successful men have made money at it. You won't find a better treatise on poultry anywhere. Only 10c for postage.

Reliable Exhibition Coops } ARE LEADERS. RELIABLE INC. & BROODER CO,
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You will see them at the Paris Exposition in 1900. Box B-2, Quincy, Ill.

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Special departments for horses, cattle, sheep, hogs, poultry and dairy interests.

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The leading Horticultural and Agricultural paper of the Pacific Coast. Publisht weekly, handsomely illustrated, $2.00 per annum. Sample copy free.

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PRAIRIE STATE INCUBATOR CO. Homer City, Pa

49A17t Please mention the Bee Journal.

☞ IF YOU WANT THE

BEE-BOOK

That covers the whole Apicultural Field more completely than any other publisht, send $1.25 to Prof. A. J. Cook, Claremont, Calif., for his

Bee-Keepers' Guide.

Liberal Discounts to the Trade.

HATCH CHICKENS BY STEAM—with the simple, perfect, self-regulating EXCELSIOR INCUBATOR

Thousands in successful operation.
Lowest priced 1st-class hatcher made.
GEO. H. STAHL,
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Circulars free. Send 6c. for Illus. Catalog

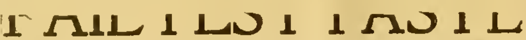
44A26t Please mention the Bee Journal.

$100 to the Winners

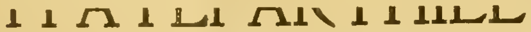
These wintery evenings you have some time to spare, so here is a puzzle you can solve. If you have not the leisure to-night, put it aside until to-morrow night or, better still, call the attention of the members of your family who have a taste for puzzles, to it. Some of you can hardly fail to get it. It is purely a test of quick-witted observation without any element of chance. There is only one answer that can be obtained by properly finishing the letters and supplying the space to make words of the letters. We give below two lines of incomplete letter puzzles. By solving one of them you earn a prize, and by solving both correctly you come in on the $100 prize to the winners.

Other Prizes

To any contestant sending a correct answer to one of these puzzles, we will send their choice of a year's subscription to "The Gentlewoman," or "American Fruit and Vegetable Journal," or "American Poultry Advocate," or your choice of any one of the following books: "The New Hygiene," a book on up-to-date treatment to maintain health without medicine; the works in one volume of Charlotte M. Braeme; or the "Duchess"; or Miss Muloch's; or Sylvanus Cobb, Jr., or Miss Braddon's; or Wilkie Collins; or Mary Cecil Hay. When sending in your answers name the prize you wish, should only one puzzle be answered correctly. The first puzzle is



This puzzle consists of a line of 13 incomplete letters, which if complete would spell three words. Only the lower two-fifths of each letter appears, the other three-fifths have been cut off. What are these three words? They are all taken from this very advertisement. The words are not separated from each other, but the letters follow in correct order, all they need being the space. There is no transposition or trick of any kind. Taking one letter right after the other from the first to the thirteenth they spell three words. EACH WORD IN BOTH PUZZLES APPEARS SOMEWHERE IN THIS ADVERTISEMENT. There is no chance about it. If there were two correct answers to either one of these puzzles, the Farm, Field and Fireside would be refused the mail for running a lottery.



The second puzzle consists of 13 incomplete letters, forming four words, the letters following consecutively as in the first: In order to get all the words in this advertisement as promised we are compelled to tell the following little story: "Some animal was injuring our trees on the hill, so we placed a poisoned paste in a tart, which the animal ate, and I hate to say what the pest proved to be. Can you guess? We found that the poison had made it very ill, and we took it by the tail and drowned it in the pond."

The object of the puzzle is in part to secure a large number of new trial subscribers to the Farm, Field and Fireside, the greatest agricultural weekly in the west. Do you know of any farmer who might be interested in a good farm paper? We want him on our list for a short time, and as the contest is inaugurated for the purpose of introducing our paper into new homes we make the following the

Conditions: To be eligible to receive a prize every contestant must send with his or her answer the name of a person not now a subscriber, with 25 cents to pay us for sending the paper to him on trial for three months.

Remember, if you get one line right you earn a prize, and if both are right you are in on the first prize. THIS CONTEST WILL CLOSE MARCH 31. ADDRESS PUZZLE DEPARTMENT FARM, FIELD AND FIRESIDE, 710 MASONIC TEMPLE, CHICAGO.

rests, as they rise to go to the tree they begin to circle and rise higher and higher, and as they ascend the circle enlarges, and if one is very observing he will notice that each time the circle is made there will be a pull or a bend in a certain direction. Experience and observation has taught me that is the direction in which you may expect to look for the tree, and will find, when they settle down to business, that will be the way or direction they will go.

It is difficult, sometimes, to get bees to come back to the bait, if there is an abundance of bloom. My opinion is you cannot rely on a bee's steadiness in going and coming in the midst of flower-bloom. There is a fickleness about their movements that indicate this on their return to bait. I have seen them come direct from the bloom to the bait, and vice versa. I never had any trouble about bees coming back to the baits after going beyond them; they are generally a little slower about getting to work.

Clark Co., Wis. L. ALLEN.

Wintering Very Well.

Bees are wintering very well here. My 80 colonies in the cellar are wintering better than I ever knew them to do before—no dead bees to amount to much. They have good honey. FRANK BAKER.

Macon Co., Ill., Feb. 16.

Expects a Fine Year for Bees.

We are having fine weather here now. The bees have been flying for a week or more, rearing some brood and bringing in loads of pollen. I think we are sure to have a fine year in this locality. H. HEWITT.

San Joaquin Co., Calif., Feb. 3.

Cold Hard on Clover.

Bees are wintering well so far; but the continued cold, hard, freezing weather, with no snow to protect the clover-roots, is anything but cheering to the man who looks to his bees for his principal means of support. Let us be hopeful. J. W. WILCOX.

Jo Daviess Co., Ill., Feb. 16.

Sweet Clover—Candied Honey, Etc.

We have been sowing sweet clover here on the farm in a small way for several years, and a year ago last summer we cut about a half acre of the same mixt with red clover, and put in the bottom of the mow where most of it had been until this winter, when we finisht feeding it out. The horse did not seem to like it very well, but to know just what cattle would do with it I

MONEY IN MELONS

BUCKBEE'S

NEW STRAWBERRY MELON

which created such favorable comment last season was hybridized with the strawberry, the result being the most delicious strawberry flavor. Hardy, good market size, excellent shipper. It will please everybody that grows it and all who eat it.

WRITE TO-DAY and we will send you a liberal package of this wonderful melon seed and our large beautifully Illustrated Seed and Plant Book. Tells all about best varieties of melons, how to grow for profit, etc. Write today and mention this paper.

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MENTION THIS PAPER.

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ROCKFORD SEED FARMS.
ROCKFORD. ILL. BOX 537.

Please mention Bee Journal when writing.

HENS LAY double the eggs when fed on Green Cut Bone.

MANN'S NEW BONE CUTTERS prepare bone in the best and cheapest way. Cut fast, fine, turn easy. Mann's Clover Cutters, newest, fastest, $8. & $10. Mann's Swinging Feed Tray and Granite Crystal Grit make the business profitable. Catalog free. F. W. MANN CO., Box 77 Milford, Mass.

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FROM LUNG OR KIDNEY

troubles can obtain valuable advice, FREE, by addressing DR. PEIRO,
34 Central Music Hall, CHICAGO.

Write at once, stating age, sex, occupation, how troubled, post-office address, and enclose return stamp for immediate reply.

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MOST DESIRABLE IMPLEMENT MADE...
Have you seen our popular New UNIVERSAL MODEL Combination Drill
Double or Single Wheel
with Hoe, Cultivator, Plow and Rake Attachments. It plants any seed with absolute regularity as to quantity and depth. No seed wasted at ends of rows. Easily changed from drill to cultivator. Made of the best material; will last a life-time. Our full line of tools for the gardener are the standard of America. Send for our free book. Popular prices to early purchasers.
AMES PLOW CO.,
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BEE-SUPPLIES!
Root's Goods at Root's Prices
POUDER'S HONEY-JARS and everything used by bee-keepers. Prompt Service—low freight rate. Catalog free. WALTER S. POUDER,
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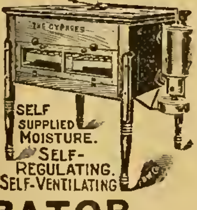
BUY THE BEST.

If you want the best low-down wagon you should buy the Electric Handy Wagon. It is the best because it is made of the best material; the best broad-tired Electric Wheels; best seasoned white hickory axles; all other wood parts of the best seasoned white oak. The front and rear hounds are made from the best angle steel, which is neater, stronger and in every way better than wood. Well painted in red and varnisht. Extra length of reach and extra long standards supplied without additional cost when requested. This wagon is guaranteed to carry 4,000 pounds anywhere. Write the Electric Wheel Co., Box 16, Quincy, Ill., for their new catalog, which fully describes this wagon, their famous Electric Wheels, and Electric Feed Cookers. Please mention the Bee Journal.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SELF SUPPLIED MOISTURE.
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$4,000 IN VALUE FOR 15c.
"How to Make Money with Poultry and Incubators," is a new 192 page (8 x 11 inches) book, filled with articles by the highest authorities in the world, written expressly for this manual. Its preparation cost us $4,000. Send 15c. in stamps and specify book No. 50. It tells all about the famous
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A machine warranted to last ten years without repairs, and to out-hatch, during three trials, any other machine made, bar none. Built for Business. Sold on Honor. Your money back if it does not do all we claim. One style only—Our Best. 16-page circular free. Book 15 cents. Address nearest office.
CYPHERS INCUBATOR CO.
CHICAGO, ILL. WAYLAND, N. Y. BOSTON, MASS.
Please mention Bee Journal when writing.

took some sweet clover hay out in cow yard, where there were three head, and threw the hay down to the cattle. Two head ate the hay just the same as if it had been red clover, while one cow I had bought in October would not even taste it or try to eat it.

Sweet clover mown down and fed to cattle when about two feet tall, grown on good soil, was eaten readily last summer here at our place.

Now a pointer to anyone short of pasture: Teach cattle to eat sweet clover, then go on the highway or elsewhere and cut a lot of it, load on the wagon, and drive into a pasture field and scatter it rather thinly over the ground, and let the cattle help themselves.

Two or three years ago we began putting up our honey in raised-cover tin pails, and let most of it candy, then put it on the market to be mostly sold on commission, and what was sold for cash was sold with the understanding that if the grocerymen could not dispose of it for a fair profit I was to take it out of the store and return the cash, which I did.

But since Dadant's sell all their honey when granulated, I was determined our ripe, rich honey should go the same way, and the consequence is we now have a good trade built up on honey in the granulated form. Outside of what we put up in one-pound bottles, it is not liquefied to satisfy any one's whims.

Last fall we put up 600 pounds of honey in common quart fruit-cans, with a large, suitable label, which for cheapness are just the thing, for they sell well.

Fourteen years ago in the spring we began bee-keeping in a small way (according to the books). and to this date we have taken off 16,303 pounds of honey, about ⅔ being extracted, and find, by keeping a careful record, we have taken off an average of 27 pounds per colony for the 14 years. We have a poor locality for bees, haven't we? C. A. BUNCH.

Marshall Co., Ind.

Bees Wintering Well.

My 125 colonies of bees in the cellar are keeping the best I ever had them. There is not a gallon of dead bees on the floor.
A. L. KILDOW.

Bureau Co., Ill., Feb. 19.

Report for the Season of 1899.

Last summer was a hard one for me. I had a hard spell of sickness so the bees had things a good deal their own way. They come out of winter quarters in good condition, losing 5 out of 111; I sold 26 and doubled down to 73. There was great loss of bees here, a number of bee-keepers losing all. One man 3 miles from my place lost all he had—100 colonies. Mine did fairly well last season, as I got 2,000 pounds of comb honey and 500 pounds of extracted. The fall flow of honey was the best we have had for years. I increast from 73 to 125 colonies, sold some, and doubled down to 93, all in good condition, with plenty of stores for winter. JOHN TURNBULL.

Houston Co., Minn., Feb. 15.

Extractors, Large and Small.

EDITOR YORK:—On page 114 is a picture of D. H. Coggshall's apiary with that extractor looking very familiar, for I think I had a hand in making that machine. On the same page "Old Grimes" gives some points on extractors as positive facts, which do not accord with my philosophy or experience. Isn't it the centrifugal force that throws out the honey? And isn't that force proportioned according to the square of the diameter? A comb 4 inches from the center spindle will feel only one-fourth as much centrifugal energy as a comb 8 inches from the center spindle.

I admit it is easier to make one revolution with a two-frame toy machine, but deny that it is easier to make 6 revolutions with it to do the same work that Morton's favorite 8-frame extractor would do in

ADMIRAL
DEWEY

Extra Early Admiral Dewey
Originated and introduced by
HARRY N. HAMMOND,
Seedsman, Box 2, FIFIELD, MICH.
Largest grower of Seed Potatoes in America. The Dewey is the most wonderful New Potato. Its merits are fully described in Hammond's 1900 Catalogue. Free for the asking. Address as above. Write to-day. 20 other varieties of potatoes. Also Vegetable and Flower Seeds.
Please mention Bee Journal when writing.

Apiary SUPPLIES Bee=Hives,
(5 styles); also Sections, Veils, Smokers, Honey-Knives, Hive-Tools, Alsike and Sweet Clover Seed, Books on Bee-Culture, Etc. Address,
F. A. SNELL, Milledgeville, Carroll Co. Ill.
4A12t Please mention the Bee Journal.

NONE BETTER

None Better
Everything necessary to make a good incubator is put into the new
NONE BETTER INCUBATOR.
The simplest incubator made. The most honestly constructed. Built to last. Lowest priced good machine on the market. Send 2c. stamp for catalogue.
Works Perfectly.
Hawkeye Incubator Co., Box A, Newton, Ia.
Please mention Bee Journal when writing.

SEED DUE BILL FREE
To get new customers to test my Seeds, I will mail my 1900 Catalogue, filled with more bargains than ever and a 10c Due Bill good for 10c worth of Seeds for trial absolutely free. All the Best Seeds, Bulbs, Plants, Roses, Farm Seeds, Potatoes, etc., at lowest prices. Nine Great Novelties offered without names. I will pay $50. FOR A NAME for each. Many other novelties offered, including Ginseng, the great money making plant. Over 20 varieties shown in colors. $1100 in cash premiums offered. Don't give your order until you see this new catalogue. You'll be surprised at my bargain offers. Send your name on a postal for catalogue to-day. It is FREE to all. Tell your friends to send too.
F. B. MILLS, Box 88 Rosehill. Onondaga Co., N. Y.
1D7t Please mention the Bee Journal.

The Midland Farmer
(SEMI-MONTHLY).
The representative modern Farm Paper of the Central and Southern Mississippi Valley. Page departments to every branch of Farming and Stock-Raising. Plain and Practical—Seasonable and Sensible. Send 25 cents, silver or two-cent stamps, and a list of your neighbors (for free samples), and we will enter your name for 1 year. (If you have not received your money's worth at end of year, we will, upon request, continue the paper to you free of cost another year).
W. M. BARNUM, Publisher,
Wainwright Building, ST. LOUIS, MO.
7Dtf Please mention the Bee Journal.

SURE HATCH INCUBATOR CO.
CLAY CENTER

SURE HATCH INCUBATOR.
True to its name. It is made to hatch and does hatch. No excess heating in center of egg chamber. Entirely automatic. Hundreds in use. Common Sense Brooders are perfect. Let us make you prices laid down at your station. Our Catalogue is chock full of practical Poultry information. It is FREE. Send for it now.
SURE HATCH INCUBATOR COMPANY, Clay Center, Nebr.
45D13t Please mention the Bee Journal.

FREE Our handsome Garden Annual and Seed Catalogue, or for a 2c stamp, Catalogue and a packet of the IMPERIAL GERMAN PANSY. If you will send us the names of 6 neighbors who buy seed by mail, will send the Pansy Seed FREE for your trouble. Address,
COLE'S SEED STORE, PELLA, IA. SEED
7D4t Please mention the Bee Journal.

much less time. With large machines it is the inertia to be overcome in starting and stopping that takes muscle. Starting is usually done by a push on the basket-reel with the left hand, anyway, and the brake does the stopping with ease; and I have found it necessary to slow down when using the big extractor, to avoid injury to combs after getting used to rapid turning with a smaller one.

"It isn't the distance travelled, but 'tis the pace that kills"—holds true in extractors.
S. A. NIVER.

Tompkins Co., N. Y.

Extracting-House on Wheels.

Can any reader of the American Bee Journal furnish information as to how best to build an extracting-house on wheels, so it can be easily transported and operated from place to place, very near to the hives, with two horses? If so, let him kindly arise and explain. I want to build one.

La Salle Co., Ill. A. MOTTAZ.

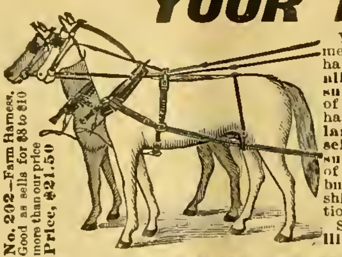
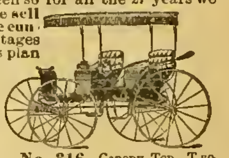
Building Up Weak Colonies.

Many colonies of bees are lost during April and May that might have been profitable to their owners if judicious care had been given them. During my first years of bee-keeping I used to let them go it alone, live or die, and they generally came out the latter way.

My practice with weak colonies during my last years of bee-keeping was to give them young bees from strong colonies as soon as they were hatcht. The bees should be shaken into a dish in order to return the queen if she should happen to be shaken off with the bees. When running them into the colony use a little smoke.

A few bees from five or six strong colonies will build up a weak one and enable them to care for a frame of brood. If there are not enough strong colonies to spare the necessary amount of bees at one time, wait a few days and repeat the operation before giving them brood.
J. H. ANDRE.

Tioga Co., N. Y.

YOUR MONEY'S WORTH.

No. 202—Farm Harness. Good as sells for $8 to $10 more than our price. Price, $21.50

You have a right to expect that, because you are entitled to it. To meet this condition is our aim and has been so for all the 27 years we have been in this business. To do this we **sell all goods direct from our factory to the consumer at wholesale prices.** The advantages of this plan are many and obvious. This plan has built us up until we are now the **largest manufacturers in the world selling vehicles and harness to consumer exclusively.** We make 178 styles of vehicles and 65 styles of harness. The buyer takes no risk on our plan as we ship our goods anywhere for examination and guarantee safe arrival.

Send at once for a copy of our **large Illustrated catalogue—FREE.**

No. 816—Canopy Top, Two-spring Carriage with side curtains, storm apron, sun shade, lamps, fenders, pole or shafts, $65. Same as sells for $35 to $50 more.

Elkhart Carriage & Harness Manfg. Co., Elkhart, Indiana.

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Have you anything to do with either Fruits or Vegetables? Then keep in touch with your work by subscribing for the

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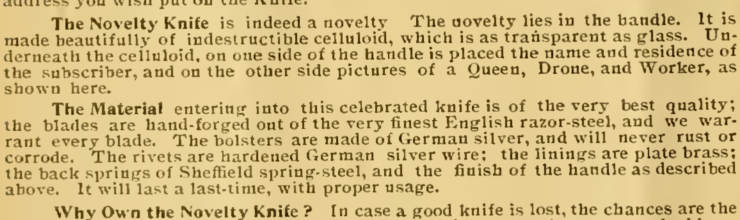
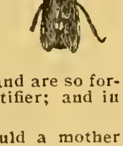
FREE! We will send the above journal absolutely FREE for one year to all new subscribers to this paper, and to all old subscribers sending us $1.00 to pay their subscription one year in advance. **Both papers for the price of one.** Send your subscription to this office while this offer is open. **Both papers $1.00.**

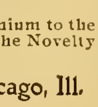
AMERICAN BEE JOURNAL, 118 Mich. St., Chicago, Ill.

The Novelty Pocket-Knife.

Your Name and Address on one side—Three Bees on the other side.







[THIS CUT IS THE FULL SIZE OF THE KNIFE.]

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

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How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

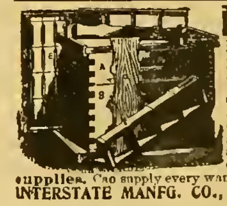
How to Get this Valuable Knife.—We send it postpaid for $1.10, or give it as a Premium to the one sending us THREE NEW SUBSCRIBERS to the Bee Journal (with $3.00.) We will club the Novelty Knife and the Bee Journal for one year, both for $1.90.

GEORGE W. YORK & CO., 118 Mich. St., Chicago, Ill.

☞ Please allow about two weeks for your knife order to be filled.

Convention Notices.

Utah.—The Utah State Bee-Keepers' Association will hold its semi-annual convention in the City and County Building, Salt Lake City, Apr. 6, 1900, at 10 o'clock a.m. A full program in the interest of the industry will be presented, and all our bee-keepers can help themselves by aiding the Association, and in order to create a closer bond of union among our bee-keepers. As a further incentive to the success of the bee-industry, it is very desirable to have our bee-keepers from all parts attend the spring convention.
J. B. FAGG, Sec.



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HONEY AND BEESWAX

MARKET QUOTATIONS.

Chicago, Feb. 19.—A little trade in honey in a peddling way by the case, no demand for lots, neither has there been for the past 3 months. Comb honey of the choice grade is selling at steady prices, and there is not too much of it; off grades are slow. Extracted is steady with no change in prices. Beeswax sells at 28 cents if yellow and clean. R. A. Burnett & Co.

Cincinnati, Dec. 27—There is a good demand for all kinds of extracted honey. White clover and basswood sell at 8@8½c; amber and Southern, 6@7c, according to quality and package. Fancy comb honey in no-drip shipping-cases sells at 15@16c; darker grades hard to sell at any price. Beeswax, 26c. C. H. W. Weber, Successor to Chas. F. Muth & Son and A. Muth

Los Angeles, Feb. 15.—1-pound frames, 12½@15c; 2-pound cans, 2 dozen in case, per dozen, $2.50; 2-pound glass pails, per dozen, $2.50. Extracted, water white, 60-pound tins, per pound, 8½c; light amber, 7½@8c; dark amber, 7½c. Beeswax, 25@26c.

Stocks of honey in all parts of the United States are lower than they have been for 10 years. It is most desirable that rain should come as prices are likely to be high.

Kansas City, Feb. 12.—We quote fancy white comb, 14@15c; No. 1, 13½@14c; No. 2, 12½@13c; fancy amber, 13@14c; No. 1, 12½@13c; No. 2, 12@12½c. Extracted, white, 7½@8c; amber, 7@7½c; dark, 6@6½c. Beeswax, 22@25c.
C. C. Clemons & Co.

Buffalo, Jan. 5.—Market bare of fancy white one-pound comb honey, and selling at 15@16c; fair to good, 12@14c; buckwheat, dark, poor, etc., 8@10c. Fancy pure beeswax, 28@30c.
Batterson & Co.

New York, Feb. 8.—During the past 30 days our market has been somewhat slow and easy in both comb and extracted honey. Stocks of comb honey, however, are almost exhausted, and there is a fair demand for all grades. Fancy white selling at 15c; No. 1 white at 13@14c; fancy amber, 11@12c, and buckwheat at 9@11c, according to quality, etc.

Our market is well supplied with extracted, tho prices are firm and unchanged. Beeswax sells very well at from 26@28c, according to quality. Hildreth & Segelken.

San Francisco, Feb. 14.—White comb, 11½@12½c; amber, 8@10c. Extracted, white, 7½@8c. light amber, 7@7½c; amber, 5@5½c; Beeswax, 26@27c.

Beyond the filling of small orders by jobbers, there is practically nothing doing in honey. Offerings are light, and are mainly comb. Quotations are unchanged, but at present represent little more than jobbing rates. A shipment of beeswax was made the past week of 3,200 pounds by steamer to Germany. Stocks are small and prices steady.

Boston, Jan. 12—We quote as follows: Fancy white, 16c; A No. 1, 15c; No. 1, 13@14c; buckwheat will not sell in this city. Extracted, light amber, @8c. Demand is very light.
7 Blake, Scott & Lee.

Albany, Jan. 10.—We quote: Fancy white comb, 15c; No. 1 white, 13@14c; mixt, 11@13c; buckwheat, 10@11c. Extracted, white, 8@9c; mixt, 6½@7c; dark, 6. Beeswax, 26@28c.
MacDougal & Co.
Successors to Chas. McCulloch & Co.

Omaha, Feb. 13.—Demand shows some improvement in January, having been much more active, but as anticipated there is no advance in prices. Market remains steady at 14@14½c for fancy white comb and 8½c for white extracted. The latter is pretty well cleaned up along the Missouri River, and it looks as if there would be some shortage before another crop comes in. From present appearances there is about enough comb honey to go around at the present prices, hence we look for no particular change in values. Peycke Bros.

Detroit, Feb. 10.—Fancy white comb, 15@16c; No 1, white, 13@14c; fancy amber, 11@12c; dark and undesirable lots, 8@10c. Extracted, white, 7@7½c; amber and dark, 5@6c. Beeswax, 25@26c. Supply of honey fair with light demand.
M. H. Hunt & Son.

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We will buy it, no matter where you are. Address, giving description and price,

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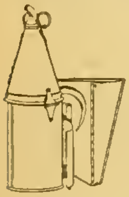
made of sheet-brass which does not rust or burn out should last a life-time. You need one, but they cost 25 cents more than tin of the same size. The little pen cut shows our brass hinge put on the three larger sizes.

No wonder Bingham's 4-inch Smoke Engine goes without puffing and does not



DROP INKY DROPS.

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Prices: Heavy Tin Smoke Engine, four-inch Stove, per mail, $1.50; 3½-inch, $1.10; three-inch, $1.00; 2½-inch, 90 cents; two-inch, 65 cents.

Direct-Draft Perfect
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SMOKERS

are the original, and have all the improvements, and have been the STANDARD OF EXCELLENCE for 22 years. Address,

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Why does it sell so well?
Because it has always given better satisfaction than any other.
Because in 23 years there have not been any complaints, but thousands of compliments.

We guarantee satisfaction.
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The Classic in Bee-Culture—Price, $1.25, by Mail.

Beeswax Wanted at all times.
CHAS. DADANT & SON,
Hamilton, Hancock Co., Ill.

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Thin Flat-Bottom Foundation
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has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.
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Journal of Agriculture,
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A wide-awake, practical Western paper for wide-awake, practical Western farmers, stock-raisers, poultry people and fruit-growers, to learn the science of breeding, feeding and management. Special departments for horses, cattle, hogs, sheep, poultry and dairy. No farmer can afford to do without it.

It stands for American farmers and producers. It is the leading exponent of agriculture as a business, and at the same time the champion of the Agricultural States and the producer in politics. Subscription, One Dollar a Year.

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STRAWBERRIES—90 Varieties. Including new Gladstone, Pennelt, Senator Dunlap, Twilight, Livingstone, Emperor, Empress, Rough Rider, W. J. Bryan. All standard, well-rooted plants. Don't miss our plant collection offers. FLANSBURGH & PEIRSON, LESLIE, MICH.

POTATOES. Early Snowball and twenty other leading varieties. *Catalogue Free.*

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GEORGE W. YORK, Editor.

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BEE JOURNAL.
DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS.

40th YEAR. CHICAGO, ILL., MARCH 8, 1900. No. 10.

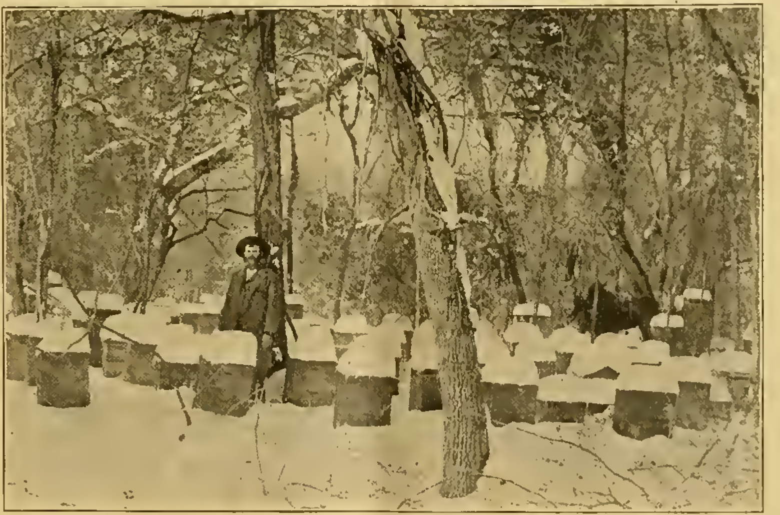
CONTRIBUTED ARTICLES

Bee-Keeping in Almost a Perpetual Summerland

BY W. O. VICTOR.

WELL might I say that this is a land of perpetual summer, if I am to judge from present indications, for to-day, (Jan. 5), I have near my window a peach-tree almost in full bloom, and a little further on I see the water-elm and cottonwood looking as if to-morrow I might hear the busy hum of the bees among their branches. In the apiary I see a box-elder with beautiful green foliage and large bunches of fresh-looking white flowers.

There has not been a week this winter that the bees have not gathered more or less pollen; this, however, I do not consider an advantage in every respect, as it causes brood-rearing at a season when the bees should be quiet. Altho ice has been almost an unknown thing with us this winter, we sometimes have sudden changes, with low temperature, which confines the bees to the hives for several weeks at a time; and we lose heavily by their not being in a condition for this long confinement.



A Snowbound Out-Apiary in Texas.

At this time my bees have considerable brood, and should the weather continue pleasant I will soon have hives overflowing with bees, and, I might say, consuming tons of honey, when they should be just beginning to rear brood for the spring harvest. However, I do not expect a continuance of springlike weather, tho we may expect enough of it to carry the elm and cottonwood to full bloom in February.

Speaking of perpetual summer brings to my mind Mr. C. Theilmann, of Minnesota, whom we all know to be worthy of a warm place in our hearts, and a remark he made at a meeting of the South Texas Bee-Keepers' Association, Dec. 27, 1894, when the temperature dropt from summer to a few degrees above zero, mention of which he has made. He said he had read a great deal of the perpetual summer of the Sunny South, and he had come down to see if he could not see some of the other side of the question, and thought he had come at just the right time!

As I do not want to go on record as saying we have perpetual summer in the "Beautiful Sunny South," I will see if I cannot show a genuine winter scene.

I send you a photograph of the "River Ranch" (as the boys call it) four miles below town, on the bank of the Colorado river. The snow shown in the picture began falling Feb. 13, 1895, and continued thru the 14th, the average depth being 18 inches. The photograph was taken Feb. 16, when the snow had melted to a considerable extent. The "stump" in the foreground, with "moss" on each side toward the top, is your humble servant. "Tom" and "Rose" in the background have seen many years with the bees; on this occasion they drew a rudely constructed sled, carrying the photographer and myself.

On the 17th I went down with a load of lumber to build a honey-house. I had been using a tent previous to this. On arriving at the apiary I discovered that depredations that had been going on all winter had been repeated. I followed the tracks to the hive that had been robbed; by it in the snow I could see the print of a bucket. Having secured his booty, the thief took himself off in an opposite direction from which he came. I determined to make good the opportunity the snow afforded, and followed the tracks; they soon bore to the left and came around to the side whence they came, following the same trail for quite a while, and, to my great surprise, I came to two sets of tracks. I luckily decided to follow the right hand set first; they soon circled back, and the thief for a short time doubled on his tracks, evidently to throw me off, should I happen to visit the apiary before the snow was gone. I continued my search, and ere long the trail brought me to a Mexican woodchoppers' camp.

The following morning I returned with an officer and necessary papers, and we found in their tent the bucket of honey with comb foundation (fishbone) in it, said to have come from a tree.

We took five Mexicans to jail, and after detaining them some 30 days, they were tried, and releast, as I could not prove which one went to the hive on this particular day; but the detention had the desired effect, however, and I have had but little trouble along this line since, save when Mr. Bruin struck me pretty heavy on several occasions.

By Feb. 25 the snow was all gone, and we had genuine spring weather. Wharton Co., Tex.

⁂

Temperature of Cellars in Wintering Bees.

BY C. P. DADANT.

SOME time ago an article from me was publisht in the American Bee Journal, in which I mentioned the proper temperature, in my estimation, for the safe wintering of bees in cellars, and placed it at 40 to 45 degrees. I also stated that I had, years ago, met a bee-keeper who held that bees could be wintered successfully at a temperature as high as 90 degrees, but that I had ascertained at the time that he was only guessing at the temperature, and did not use a thermometer.

This article of mine was reproduced in the Bee-Keepers' Review for November, and at the same time an article was publisht from Ira Barber, of New York, who says that he has done this very thing, and that he did use a thermometer. I quote a passage from his article:

> "The highest temperature that was found when a thermometer was used was 90 degrees, and all the colonies were clustered on the outside of the hives, but not in one mass all together. In the seven winters that I had bees in this particular cellar, tests were made two or three times each winter until the last winter, when I did not go there until March. Then I was sent for to see what ailed the bees. Upon going there I found the bees, 225 colonies, ALL IN A SOLID MASS ON THE HIVES, there was no part of a hive to be seen, yet all the bees were as quiet as tho clustered upon the outside of their hives on a damp, muggy morning in August."

Mr. Barber goes on to report that these bees wintered with the loss of only one queen, and in the best condition of any lot that he ever wintered. He ascribes the success to the damp condition of the cellar. I do not wish to find fault with this statement, altho I can not help thinking that in an Illinois cellar it would have been very difficult for the bees, which were clustered in one mass, to find their respective hives again. Neither would I want to leave bees from the beginning of the season until March without making an occasional examination of the conditions in which they were placed.

But what I wish to do here is to warn the inexperienced apiarist against experimenting with high temperatures in the cellar. Aside from the fact that it would be very difficult to obtain such a temperature—which is almost to the point of blood heat, and higher than that of any summer night in our latitude—the statement that the bees in such temperature have to lie outside of their hives shows clearly that these were uncomfortable, which any one would surely expect. When bees are uncomfortable and clustering in this way, they will seize any opportunity that offers to change their condition, and the least ray of light, the least jar, is bound to be noticed by them, and to cause them to fly about. The exceptional instance mentioned above serves only to emphasize the need of a low and equal temperature which will keep them as quiet and as closely confined as possible with the least expenditure of food, and this is to be found without a doubt at the degree mentioned in my previous article. This has been tested over and over in different cellars, by different apiarists.

A test may easily be made by any one who winters bees in a cellar, and will settle this matter to the satisfaction of the person himself. Let each cellar be provided with a thermometer, then examine your instrument often, at each time taking note of whether the bees are quiet or noisy. If the temperature is right they will make such low hum that nothing will be perceptible above a faint murmur in a cellar containing even a hundred colonies. If it is too low or too high the hum will be more perceptible. At too high a temperature they will become restless, they will slowly emerge from the hive-entrance, and will cluster on the front board. They are then ready to take flight at the least disturbance by light or jar.

It is very difficult to write on a subject requiring as much exactness and accuracy as bee-culture and its details without meeting some one who is ready to contradict one's assertions. But we must console ourselves with the thought that not bee-culture alone is open to contradictory views, and that he who would teach what he thinks he knows well must be ready not only to discuss his views and his reasons, but must be prepared for an occasional open contradiction.

In another article I spoke of the common error of fruit-growers who think they know that bees can and do injure sound grapes, and incidentally I remarkt that there were many who thought that cheat could grow from wheat. No one has seen fit to oppose me on the first proposition, probably because they have felt that I was too sure of my subject; but I have had half a dozen encounters with well-informed farmers who positively know that wheat does turn to cheat under certain circumstances. Gentlemen, I peremptorily decline to furnish proofs of my own *on this subject*, and will respectfully retire behind Gray's Botany, our best text-book, in which wheat is described as "Triticum vulgare," while cheat is listed as "Bromus secalinus," two entirely different tribes of the gramineæ, and which cannot even mix in their bloom and form a mongrel, as between the melon and the cucumber. If some one positively knows better, and can adduce proofs, it is time that our text-books were corrected to agree with the facts. But superficial observations will not do either in botany or in bee-culture.

Hancock Co., Ill.

⁂

"The Best Hive for Northern Illinois."

BY EDWIN BEVINS.

I NOTICE on page 5 that at the Chicago Bee-Keepers' Convention a paper was read by W. C. Lyman, on "The Best Hive for Northern Illinois." Mr. Lyman said some good things on the subject, but not all that might have been said, and I feel like protesting against the removal of the viands before the appetites of the guests are half satisfied.

He says that the hive for Northern Illinois should have a brood-chamber large enough to contain honey to carry the bees thru the winter and spring without having to feed, and thinks one of 10-Langstroth-frame capacity will fill the bill, but would like a hive of that capacity taking only 8 frames.

I have proven by long experience that for safe wintering of bees vertical expansion of the brood-chamber is better than lateral, and I agree with Mr. Lyman that the supers of an 8-frame Langstroth hive are large enough for best results in comb honey production when the hives as deep or deeper than the Langstroth are used. When wider and shallower brood-chambers are used a wider super to correspond may give as good results—I do not know, having never tried them.

While Mr. Lyman thinks he would like these deep 8-frame hives for wintering bees, he at the same time seems to think he would not like them to hive swarms in when working for white comb honey. The swarms that issue from these deep hives he would hive in brood-chambers of about half the depth of those from which they issued. This parctice, it seems to me, would be attended with a good many difficulties and no adequate compensating advantages.

My experience with the deep 8-frame hives has not been so unsatisfactory in comb-honey results as to lead me to the use of a shallower hive for swarms while using the deeper hives for colonies.

Anybody who has read what I have written in the American Bee Journal knows that I have no great reverence for the standard, but adherence to the standard would be preferable to the use of hives of different depths in the same apiary, unless the hives of similar length and depth were workt as a small apiary by themselves. If I thought it imperative to have shallow brood-chambers to hive swarms in, I would use the sectional brood-chamber hive—using one section until the end of the white honey harvest, and then putting on another section for extracted honey or winter stores. In fact, I am using some with brood-chambers 7⅜ inches deep, that take supers of the 8-frame Langstroth hive. With queen-excluders these do reasonably well, but somehow I have a preference for brood-chambers that are not divisible. The hives in sections are just as good for wintering bees as the deep 8 and 10 frame hives, and it may probably be conceded that somewhat more white comb honey can be secured from bees working in brood-chambers having as much again capacity. But, as to general results, I am compelled to say with Dr. Miller, "I don't know."

There may be seasons in which there will not be much honey gathered after the white honey harvest, and then one might wish that some, or all, of the white honey surplus was in the brood-chamber, and that the brood-chamber was a little large. To be sure, one could resort to feeding, but feeding is something Mr. Lyman would avoid.

I think that Mr. Doolittle reported at one time unfavorably on the use of sectional brood-chamber hives, but that report may have been due to "locality." There is one thing to be said in favor of the sectional hive—an apiary can be requeened by its use very cheaply, if properly managed.

Of one thing I am tolerably well convinced, and that is, that the wintering of bees without the necessity of feeding, and the securing of a large amount of surplus, are things which can not be with any certainty combined. The time may come when these results may be approximated, but it will be after more attention has been given to the rearing of our queens.

I will remark here that there is one other advantage in the use of the sectional brood-chamber hive besides the one above mentioned. Full sheets of foundation in the brood-frames may safely be dispenst with.

If I lived in Northern Illinois, and were keeping bees with a view to comb-honey production, and wisht to reduce the labor and expense of feeding to insignificant proportions, I would use the deep 8-frame hives, fill the frames full of wired foundation, and be content with the amount of surplus that Providence and the bees permitted me to have. It is unsafe to hive swarms, or to build up nuclei, in the deep hives or frames having only starters of foundation. The man who tries many different sizes of hives will sooner or later find that the departures from the standard should not be made without mature consideration.

Decatur Co., Iowa.

Bees Stinging Farm Stock—What to Do.

BY PROF. A. J. COOK.

THE readers of the bee-papers will remember Mr. Clark, of San Bernardino Co., Calif., who has had for a good many years a large and very profitable apiary. Mrs. Clark has full charge of the bees, and in certain seasons has done all the work of this large apiary, and has secured very large yields and corresponding profits. I had the pleasure of spending the night with Mr. and Mrs. Clark not long since, and learned of an occurrence which was very interesting to me, and I think will be to most of the readers of the American Bee Journal.

Mr. Clark has a spring situated some distance to the west of his apiary in the canyon. He had a fine Jersey cow which he used to picket out to feed. The forage was especially good between the apiary and this spring. Mr. Clark observed that the bees were flying toward the spring for water in great numbers, yet the good feed tempted him to picket the cow on this line, as the apiary was some distance from the place, and he apprehended little or no danger. Yet the fact that there were so many bees did raise a question in his mind, but not knowing that cattle were unlike horses, he picketed the cow slightly, so she could get away in case of an attack.

At night, when Mrs. Clark went to get the cow, she was cold in death, and a great many bees were dead around her.

There are several facts in this account that I think are of special interest, and should be noted by all bee-keepers. The first, that the instincts of the cow when she is stung will not lead her to run away as would be the case with the horse, and she stands by until stung to death. Mrs. Clark told me the cow was very close to where she was picketed. She had pulled the stake up so she could have run away if she had been so disposed.

Again, the fact that the attack was so general that most of the colonies in the apiary were very much depleted in numbers.

Every apiarist has observed that when one bee stings, others, maddened by the odor of the poison, join in the attack. But I should not have expected that all the bees of the apiary would thus become so demoralized as seems to have been the case in this experience of Mr. Clark's. I do not think I should have hesitated to have picketed the cow at this place, but I can see now that it would be dangerous. I should have expected the cow to have run away, and should not have lookt for such a general attack. The fact that the bees were going *en masse* to and from the spring would, of course, tend to make any attack a general one, and that seems to have been the case at the Clark's. The loss was heavy, for not only was the cow killed, but the apiary was seriously injured by the loss of a great number of bees.

This is the first time that I have ever known of a cow being attackt in this way. I have known several cases of horses. Some years ago Dr. Southard, of Michigan, had an accident of this kind. His team ran away and went dashing into the apiary, which was situated in a grove. Of course, the horses struck the trees and were thrown down, and as the bee-hives were turned bottom side up the horses were terribly attackt. Dr. Southard, being an experienced bee-keeper and also a physician, knew just what to do. He at once liberated the team and led them to the barn, and covered them with blankets which were kept wet with cold water. Altho the horses were terribly stung both of them recovered.

Here, then, we have another point that is worth remembering. Of course, the inflammation and congestion consequent upon so many stings would be terrible, and anything that would lessen it should be done. The blankets constantly wet in cold water would be one of the best agents to accomplish this. If Mr. Clark had discovered his cow at the beginning of the attack, and had led her into an enclosure, the bees of course would have at once left and would have ceast the attack. If this had been followed by the use of the wet blankets very likely the cow's life could have been saved, even tho she might, at the time, have received thousands of stings.

I was once stung quite seriously myself. Over 80 stings were taken from my face, but by taking means as above to counteract the congestion, I suffered no serious harm, tho I hardly need say I was not exactly comfortable for two or three days.

Los Angeles Co., Calif.

CONVENTION PROCEEDINGS

Report of the Colorado State Convention.

[Continued from page 135.]

ANALYSIS OF HONEY.

Dr. Headden, professor of chemistry at the State Agricultural College at Fort Collins, then gave a lecture on the analysis of honey, illustrated by performing actual experiments with chemicals, together with an explanation of the polariscope illustrated by one he had with him. It was found impossible to report this lecture, owing partly to the technical nature of the subject, which required complete instead of fragmentary notes to be taken, and partly owing to the constant reference to objects such as solutions, test-tubes, etc., used in the experiments. It was, however, to those who were present to see and hear, a complete and lucid explanation of the theory and practice of both the chemical and dialytical methods of analysis, illustrated by the performance of the actual chemical process, except that the quantities of the ingredients were not measured, as they would be in an analysis. Specimens of dextrose and levulose, the two sugars of honey, were exhibited.

Among other things, Dr. Headden said that the presence of not more than 10 percent of cane-sugar did not show adulteration, and that he had analyzed sugar syrup fed to bees, and found it wholly inverted.

[The following digest of Dr. Headden's lecture appeared in Gleanings in Bee-Culture for Feb. 15:—EDITOR.]

Whatever sugars may be present in the nectar of flowers matters not in answering the question as to what sugars may be present in honey; for it has been proven by direct experiment that the bee, in imbibing and disgorging the sugar, will invert as good as all of it, even tho it be a pure cane-sugar syrup which is fed. Honey is essentially the solution of invert sugar, composed of approximately equal parts of dextrose, levulose and water. The name applied to such a mixture of sugar when it has been derived by action of a hydrolitic agent upon cane sugar is "invert" sugar, and when occurring as a natural sugar it is called fruit sugar. Usually there is but little cane sugar present in honey, especially in that deposited by the ordinary honey-bee.

Honey candies upon standing, because of the ability of the dextrose to assume a crystalline form much more readily than the levulose; therefore, if the candied honey be subjected to sufficient pressure the greater portion of the levulose can be obtained, containing only a comparatively small portion of dextrose; or a more convenient method is to place a portion of the candied honey on a sieve floated on a weak alcohol containing about 20 percent of water, whereupon the levulose will readily pass into solution in the alcohol, leaving a mass of crystals upon the sieve, which are crystals of dextrose.

If we take some of these crystals, dissolve them in water, and examine the solution by the aid of an instrument called a polariscope, we shall find that it turns the plane of polarization to the right. If we take the alcoholic solution and examine it by the aid of the same instrument, observing proper precautions, we shall find that this solution turns the plane strongly to the left. This is the reason that we have designated the sugars as right-handed sugar and left-handed sugar.

While the left-handed sugar, or levulose, can be obtained crystallized, it is with much more difficulty than in the case of the dextrose. If into a solution of dextrose there be introduced some crystals of this sugar the crystallization can be facilitated very materially; and in our climate, where evaporation takes place rapidly, it is possible that we can bring about the candying of extracted honey by adding to it a small portion of already candied honey or crystalline dextrose. W. P. Headden.

Mr. Root—Is there the same amount of dextrose in all honey?

Dr. Headden—Yes.

Mr. Root—What becomes of the levulose when the honey is candied solid, since it is only the dextrose that candies?

Dr. Headden—It can be taken out if the honey is prest, or placed in a centrifugal machine.

Pres. Aikin—What is the reason why one lot should candy and another not?

Dr. Headden—We are completely in the dark as to the cause of granulation.

Mr. Root—What is the process of candying—crystallization?

Dr. Headden—In ripe honey it is altogether crystallization, and is a purely automatic process. Some crystallizable solutions are strongly affected by stirring, but I doubt whether honey is. It is too viscid.

J. U. Harris—I understand that Section 8, of the clause of the horticultural law that relates to spraying fruit-trees in bloom, has been repealed. I move a committee be appointed to investigate.

Carried, and Messrs. Harris, Whipple and Brock were appointed as the committee.

Prof. C. P. Gillette, professor of entomology of the State Agricultural College at Fort Collins, then read a paper on the principles necessary to the understanding of foul brood, explaining germ diseases, and showing that it is one of them. He had with him a large microscope with a slide on which some stained foul brood bacilli were clearly visible, magnified 1,000 diameters. His paper is as follows:

Foul Brood—Germ Diseases.

Foul brood has long been known as a true contagious disease. Such diseases do their most destructive work when they attack individuals that are crowded together in densely populated communities. The fact that the honey-bee lives in such communities, and the further fact that both the bees and their products are shipt freely from place to place, have made this a very serious and widespread malady. If it once enters an apiary, and nothing is done to eradicate it, it is almost certain that it will, in time, destroy every colony in its immediate neighborhood. Colorado's pure air and abundant sunshine seem to offer no impediment to the rapid development and spread of this disease, which is widely disseminated in the State. It is important, therefore, that all who keep bees should know the cause of this disease, its symptoms, its methods of dissemination, and also the preventives and remedies that may be used to lessen its destructive work. I presume most of you are better acquainted with the symptoms and remedies of foul brood than with its real cause and methods of dissemination, so I have chosen to dwell principally upon these latter topics.

The researches of the past 35 years, and chiefly of the past 15 years, have shown that most, if not all, contagious diseases are the result of the attack of microscopic parasites upon some part of the diseased plant or animal.

Every one understands how it is that parasites, such as ticks, lice, and mites that produce itch, scab and mange, are conveyed from one host to another, and also how it is that the particular complaint accompanying each of these parasites could not occur in the absence of the particular parasite. Cholera, small-pox, diphtheria, and typhoid fever are also parasitic infections, but the organisms producing these diseases are so small that they can not be seen by the unaided eye.

On account of the minuteness of these organisms, requiring the aid of a compound microscope to enable man to see them, there are many people who think that the "bacilli" and "microbes" of which the scientist speaks exist only in his own fertile imagination.

What are these minute organisms? How do they increase in numbers? What do they look like under the microscope? and how do we know that they are the cause of contagious diseases? These are questions that I shall attempt in some degree to answer.

In the first place, it is conceded that these organisms belong to the vegetable kingdom in spite of the fact that they are able to move freely about in the moist media that they inhabit. They are closely related to such vegetable growths as rusts, smuts, mildews and molds, with which all are more or less familiar.

Altho micro-organisms are the cause of nearly all contagious diseases of plants and animals, these organisms are not all detrimental to man's welfare. Some are of the utmost importance. Without them there would be no decomposition of dead animal or vegetable matter, and the soil would lose its fertility. There would be no fermentation, no souring of vinegar or milk, no ripening of cream or cheese.

These organisms vary greatly in shape. Some are merely oval bodies, being nearly as broad as long; others are cylindrical or rod-shaped; of the latter, some are very short and others are long compared with their diameters. Others are variously curved, some taking the form of a spiral. All have the power of movement, and when seen alive under the microscope they are usually moving very rapidly about, often in countless thousands.

The germs of foul brood have been named *Bacillus alvei*. They are very large compared with most bacilli, and are in the shape of short rods of varying lengths. The longer ones have about the proportions of the half of an ordinary lead-pencil. Altho these germs are very large it would require 5,400 of them placed end to end to reach one inch. Of the spores formed from the rods it would require 12,000 to span one inch. Some micro-organisms are so small that it would require more than 50,000 to span one inch when placed end to end. Perhaps it would be more intelligible to say that 1,800,000 of these spores could rest side by side on the head of a common pin. This will, at least, made it evident that there would be no use to look for these organisms with the naked eye, or with any of the hand magnifiers. Nothing but a powerful compound microscope can reveal them to the human eye.

In 1850, Davaine, of France, discovered great numbers of minute rod-like organisms in the blood of animals dying of splenic fever, or anthrax. He considered these objects as one of the symptoms accompanying the disease, but did not think of such a thing as their being the cause.

A few years later Pasteur, also of France, began a series of experiments to determine the cause of fermentation of beer and wine. He succeeded in proving beyond question that the real cause was the presence and growth of micro-organisms, and that without these organisms no fermentation could be produced. These announcements of Pasteur in 1863 led Davaine to suspect that the rods that he found in the blood of animals having splenic fever might be the cause of that disease. To test the matter he inoculated healthy animals with blood of diseased animals containing the germs, and found that he could produce the disease with great certainty. So it was about 37 years ago that it was first proven that micro-organisms might be the cause of a contagious disease.

When Davaine's announcement was made there were very few, even among scientists, who would believe it. In consequence of this the experiments were carried thru again with the utmost care by Dr. Koch, of Germany, in 1876, and by Pasteur, of France, in 1877. The results were so conclusive in proving that the bacilli were the real cause of the disease, that Davaine's theory was generally accepted.

In the meantime, in 1865, Pasteur announced the results of his investigation of a terrible silkworm disease known as *Pebrine*, which threatened to destroy the silk industry of France, showing that this disease was also caused by a specific microbe.

These discoveries struck the key-note to the real cause of all similar diseases, whether in man, the lower animals, or in plants. It is one of the epoch-making discoveries of modern times. I will tell you briefly the process by which it is proven that a special microbe is the cause of a particular disease.

In the first place, it must be determined that the organism does not occur in the tissues of the healthy animal. Secondly, the microbes must always be found in the tissues of the animal having the particular disease in question. Thirdly, the organism must be taken from the tissues of a diseased animal, separated from the other organisms and grown thru several generations. Then the organisms from the last culture must be inoculated into the tissues of a healthy animal, and cause the particular disease. Lastly, the tissues of this diseased animal must be found to contain the characteristic germ with which the experiment started. Such proof must certainly be conclusive. It is in this way that Cheshire proved foul brood to be caused by the organism that he named *Bacillus alvei.*

Now let us consider how these organisms can increase so rapidly as they must to cause the death of a large animal in a few days after they attack it, which is not an uncommon thing.

A single spore or rod of *Bacillus alvei* is sufficient to start foul brood in a colony if it is eaten by a larval bee, and a few weeks later the germs will be present in countless millions, and nearly all the brood will be diseased or dead. Cheshire estimated that a single bee-larvæ might contain a thousand millions of these germs. An illustration or two may help us to understand the enormity of this number. If each of the thousand million germs could be represented by a block an inch on a side, these blocks would be sufficient to build a wall an inch thick, 10 feet high, and more than 130 miles long. Again, if each of these microbes was a foot long, and they were all placed end to end, they would reach more than seven times around the earth.

The method of increase in these organisms is by division. One of the rods attains a certain length, and then divides into two rods. The two soon attain adult size and divide, forming four. These four and all succeeding ones grow and divide in like manner, which gives an increase in geometrical ratio. A few minutes' figuring will prove to you that, if one of these germs and its progeny divide every four hours, they will amount to a billion in less than five days. So, altho the number is enormous, the manner of increase makes it possible to attain such numbers in a little time.

Appreciating to some extent the extreme minuteness of these organisms, and remembering that they are hundreds of times smaller than the smallest mote that we can see floating in a sunbeam, we are prepared to understand how they can float about with great readiness in currents of air. Micro-organisms are always about us, in the food we eat, the water we drink, and the air we breathe, but they are more abundant about cities and thickly populated communities than in more thinly populated places. Water exposed to the air always contains them. Experiments by Miquel, of France, showed that rainwater contains 64,000 germs to the quart. Most of these germs are perfectly harmless; but when pathogenic (disease-producing) germs do occur in any place, it is easy to understand how readily they may be carried about upon one's hands or clothing, in milk or water, in letters thru the mails, by insects such as flies and mosquitoes, and in similar ways.

There is a difference of opinion as to how the foul-brood germs are introduced into the bees. The popular belief is that they are taken into the alimentary canal along with the honey that the larval bee eats. This being the case, there should be large numbers of the germs in the alimentary canal in the early stages of the disease. Cheshire says that the germ almost never makes its attack in the alimentary canal. He thinks the germs come in contact with the surface of the body, begin to develop there, and then penetrate to the interior.

Foul brood was so named because of the offensive odor which usually accompanies it, and the supposition that it attacks the larval bee only; but Cheshire found that mature bees often succumb to the disease. He also states that queens of badly diseased colonies frequently have the disease, and that the eggs laid by them contain bacilli. Pasteur, in 1865, found that the eggs of the diseased female silkworm moths always contained germs of the silkworm disease, and that worms hatching from these eggs always died prematurely. If queen-bees can become diseased, it seems probable, then, that the eggs they lay would contain germs of the disease which would develop and destroy the future larvæ.

While there can be little doubt that the foul-brood germs are usually communicated to the young bees in honey given them as food, it may also be carried from colony to colony upon the hands, upon knives used to trim burr-combs, or upon boards or cloths or sections, or other furniture used in the hive of an infested colony. If a diseased colony becomes weak, it may be robbed by other colonies, all of which would probably contract the disease.

The symptoms of foul brood are quite characteristic. The larvæ lose their pearly whiteness, gradually changing to a coffee color, finally turning black, and drying down to a mere scale at the bottom of the cell. The coffee-colored mass that the larva changes to is entirely shapeless, showing none of the structure of the grub; and if a sliver or pin be used to remove it from the cell it will stretch out for some little distance, and then snap back. If the larva is nearly grown before the disease attacks it, it may cap its cell, and then, after it dies, the capping usually sinks, and often has a hole at the center. When mature bees are attackt they weaken and die, but retain their form.

You are familiar with the methods of treating this disease as given in the State law, in bee-journals, and by county inspectors, so I shall not take time to treat this phase of the subject, except to warn all, especially beginners, against any attempts to *cure* the disease. You will do better to bury or burn the entire colony as soon as found to be diseased. C. P. GILLETTE.

Mr. Whipple—I have noticed some pickled brood, dead brood with a watery substance around it.

Mr. Root—A great many samples of dead brood have been sent to us. Those from New York were not pickled brood which retains its shape, while this other kind does not, and is of the same color as foul brood. It is not cured by the starvation plan.

Mr. Bates—I found two colonies affected with dead brood. It was dry, and had none of that watery appearance. I sprayed with brine and carbolic acid, and closed the hives. That was the end of it. I took three supers of honey from one, and two from the other.

Mr. Harris—The bee-inspector in Mesa County found a great deal of brood dead, in some cases one-half. It was not pickled brood.

Mr. Thompson—In Montrose County some of us noticed a good deal of dead brood thru the summer, in cells scattered everywhere among the healthy cells. It was of a brown color, but neither foul brood nor pickled brood. In Utah I heard of a good deal of what is there called pickled brood, but I think not correctly.

The report of the legislative committee was then heard.

Mr. Harris—Your committee waited on the assistant of the attorney-general. He said an attempt was made to repeal the spraying clause, and in his opinion there was a question whether the clause had not been repealed.

Prof. Gillette—Near Fort Collins last June there was a case of prosecution under that law, and the fine was paid. Hence the law was in force.

(The report of the committee was received and the committee continued.)

Mr. Milleson—There need be no fears about any law being amended or repealed if due diligence is exercised by the committee. There is no member of the Horticultural Board, with one exception, but is in sympathy with us. The opinion is almost unanimous all over Arapahoe County that bee-keepers should be protected.

Mr. Harris—I refer to the Repealing Act of 1899, page 299. The horticulturists in Mesa County say the law is repealed, and they will spray all they please.

Pres. Aikin—We were assured last year there was no repeal.

Prof. Gillette—I know that Mr. Harris is correct in his assertion that prominent Mesa County horticulturists are against the law. There is no need of spraying in bloom, and I have always told horticulturists so. I wish to know whether the bee-keepers would like experiments performed to ascertain the degree of heat necessary to destroy foul brood.

J. B. Adams—I would like the Professor to take up the killing temperature of foul brood. Some think boiling a short time is enough, and others that it should be boiled a long time.

Mr. Whipple—I have found that when the honey is diluted half and half with water, and brought to a sharp boil, it is safe.

H. Rauchfuss—I would like the Professor to take up the question of queens carrying the disease.

Mr. Whipple—I introduced a queen from a diseased colony to a healthy one without infecting it.

Mr. Porter—Is the odor of foul brood injurious?

Prof. Gillette—The odor is caused by the gas set free by the chemical action of the gérms. The germs are the cause, and the disease the effect.

J. B. Adams—I move that we request Prof. Gillette to take up foul brood experiments, and that we help him all we can. [Carried.]

[Continued next week.]

THE AFTERTHOUGHT

The "Old Reliable" seen thru New and Unreliable Glasses.

By E. E. HASTY, Richards, Ohio.

THE MESQUITE AND ITS HONEY.

Mesquite honey far the best of its locality (southwest Texas), and at least sometimes the only surplus in a very bad season. So says very competent authority—L. Stachelhausen. We can mentally "stick a pin there;" and if we had pins enough we'd know something about the different honeys of this great country of ours. All our Northern trees grow mainly above ground, with only a minor fraction of the plant under ground. Mesquite reverses this, and grows mainly under ground. This is probably the reason why it stands the terrible drouths of its locality so well. Page 50.

SMOKER MAY BE TOO LARGE—BURNING SLUMGUM.

Probably Bro. Grimes is right, that a smoker may be *too* large. And when we begin to feel as tho we needed an extra man to carry it we've got to Tubig station ourselves. I incline to put in a mild protest against burning slumgum in a smoker. Robbers will get after you worse. The ability to do some work at morn and eve, and the apiary at large not find out what's going on, is precious. If we use a smoke directly calculated to put mischief in their minds, we will have to wait longer at night, and stop sooner in the morning—at least I'll say so till some brother says he's tried it out and out, and the slumgum doesn't make a "dit o' bifference." Page 50.

FEEDING SWARMS IN ROBBING-TIMES.

Mr. A. F. Foote should learn that a swarm in robbing-times should not have honey given them till evening. But don't omit to give it then, else the danger of their taking "French leave" of you one or two days later is much increast. Brethren have got "locality" nicely rubbed into them, and now we must rub in "the diurnal conditions." Half of us are still somewhat oblivious on this—don't realize that a swarm in famine times *must* have honey, while a swarm in times of plenty doesn't care a fig for it. A swarm won't stay and starve on the roost—who can blame them? Page 51.

BUMBLE-BEE HONEY.

Dr. Miller's remarks, page 54, suggest quite an interesting problem which I have often pondered over. Is bumble-bee honey *really* better than ordinary honey (as it seems to be), or is its special deliciousness wholly owing to the stimulated relish with which it is usually eaten, and the smallness of the quantity which we are limited to? I once plundered an unusual nest which gave me honey, not all I wanted, but somewhere in that direction, and I failed to notice that the last sip was less delicious than the first. I guess bumble-bee honey is *some* better—gathered from a different set of flowers as a general thing. Also the bumble-bee (like the native Brazilian bees) adds a flavor of its own to the honey. Probably the hive-bee does something in that line likewise, but not in nearly so great a degree. If Bombus had a hundred pounds to flavor up, his elixir would run out, too, I reckon.

CAUSE OF SOME HONEY FERMENTING.

The Doctor does not fully meet Chucklehead's conundrum on the same page. A *small patch* of honey sometimes bursts off its cappings and runs out, leaving the rest sound in the same section. Bees gathered a small amount of extra-poor honey just because they couldn't bear to be idle, I think. Don't believe there is any remedy—except to keep such lazy bees as will not work except when the conditions are perfectly "apple-pie."

DRIVER IMPORTANT IN HAULING BEES.

Rambler is right, that an important "appliance" in moving bees is the driver. We don't want him to think the foundations of the world are breaking up, and take to the tall timber, just because he has got two or three stings, and a few dozen bees are loose; so the non-bee-keeping driver is mostly ruled out. Page 56.

AN UNDERGROUND HIVE-ENTRANCE.

I hope Mr. G. E. Dudley's "underground" entrance will prove an excellent thing, and eventually be added to all hives where entrance traps are used. Apparently little danger of a queen's ever getting out; but perhaps a little wider trial is needed, especially to assure us that drones would never find the way. Page 59.

A PRETTY, SPREAD-OUT APIARY.

And now comes Mr. Lehman with a pretty apiary in the widest kind of wide spacing—6x16 feet. Apparently he clips his queens and make them crawl back into the hive themselves, when they have found that the "bull pen" surrounding their domicile can not be surmounted, however much they may want to abandon it. Comparatively few of our craft would favor taking so much pains to wall in individual hives—but "many men of many minds." His hive-stands and shade-boards are admirable ones. Page 65.

THE RICH VS. THE "WORKS" AS TO HONEY-BUYING.

The complicated conditions of modern life make success something like walking a tight rope. We want every element well in hand. R. C. Aikin, page 66, forcibly sets out one of the elements. The honey custom of a working man's family may be made worth more than the custom of many rich families. So many delicacies are to be had, and the rich want to buy a little of each, that so it comes about that their purchases of honey aggregate but very little. But they would buy the same little at high prices; and with high prices the workman's family wouldn't buy any.

THE ANTI CLIPPERS ON TOP FOR ONCE.

On the question of clipping queens I was pleased to see that in the Michigan convention the anti-clippers for once seemed to have the upper hand. Don't enjoy seeing my sort of fellows playing the role of "under dog" all the time. Mr. Calvert is doubtless right that clipping, and so compelling swarms to return, works more satisfactorily in small apiaries than in large ones. Page 67.

FOUL BROOD CONVEYED IN THE CELLAR.

That was an important and rather gruesome fact contributed by Mr. Rankin, page 68, that a foul-broody colony infected five of its neighbors while in the cellar. I should hardly have expected this.

MEASURING BEE-TONGUES.

With due respect to Mr. Rankin (page 74) I nevertheless venture to hint that perhaps there is "something rotten" about his measurements of bees' tongues. The difference looks too great—especially as the samples for measurement seem to have been taken in an extempore sort of way. We may use his figures as ratios merely, and say as 4.5 is to 5.1 and 6.2; and if we accept them at face value, he already has bees with tongues nearly 38 percent longer than those of average German bees.

WINTERING AND VENTILATION.

Yes, plenty of air and a big stack of strong colonies, say 80 to 120, would very likely make an aboveground wintering-house succeed by the sheer power of internal heat. The trouble is that these winter-house fellows mostly all get cleaned out by a cold winter before they reach the 80 strong colonies. And the idea which Dr. Miller contributes —that internal warmth *makes* ventilation—is a very valuable one. Page 75.

PERHAPS A SORT OF CRISSCROSS.

If queens frequently meet more than one drone the same day there must then be frequent cases when one of the drones was an Italian and the other not. And "what would the harvest be?" In good sooth it would be a state of mixedness which we would a little rather not contemplate. Yet we mustn't shut our eyes to assured facts, if Prof. Hodge, or anybody else, can bring them. Page 75.

Dr C C MILLER

QUESTIONS AND ANSWERS.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Questions on the Dickel Theory.

An esteemed correspondent sends some questions about the Dickel theory which, if answered in full, would lead to a discussion of the same. It is very doubtful that it would be wise to take up room in this department for such purpose, and I have intentionally refrained from taking up such room by saying anything either for or against the Dickel theory. Page upon page has been occupied with it in the German bee-journals, and to go over all the same ground here would not be well, since we can afford to wait and see how our able friends in the Fatherland will settle the question, thus allowing the room in our journals to be occupied with other things. Whether the theory be right or wrong, so far as I can see, will make no practical difference whatever in our management of bees.

It may possibly be objected by some that the American Bee Journal is unfair in allowing only one side, for an article in favor of the theory has been publisht on the other side. That may not be observing strict neutrality, but it is better to err on the side of too much rather than too little politeness to a stranger.

C. C. MILLER.

## Moving Bees from Nebraska to Indiana.

I will have 40 or 50 colonies of bees to move in 1901, from Saunders Co., Nebr., to Starke Co., Ind. What is the best method of doing it? How should they be packt for shipment? When is the best season of the year for moving them? NEBRASKA.

ANSWER.—It will be better to move them early in the season' when the temperature is somewhere from 35 to 60 degrees. How they shall be packt depends upon the kind of hives, and whether one hive is to be piled on another. The points to be lookt after are to see that no bee can possibly get out of a hive, to have the frames run parallel with the railroad track, the frames so fastened they can not move in the hive, and especially to have plenty of ventilation. If your hives are so constructed as to have an entrance of 20 square inches or more, covering the entrance with wire-cloth will give all the ventilation necessary, unless the thermometer is up to 70 degrees or more. Still better ventilation can be given by making a frame or box without bottom or top to fit on the top of the hive, with wire-cloth nailed over it. But this will not do if something is to be piled on top. In such a case the cover should be so constructed that openings at the sides and ends of the cover shall be covered with wire-cloth. Make sure that the hives are in some way fastened in the car so they cannot move about, and especially that there is no chance of a hive tumbling down.

Getting Bees to Fertilize Red Clover.

We commenced growing red clover last year in considerable quantity, saving the second crop for seed. The season was propitious, and a fine second growth came on, but on threshing there was but about half the amount of seed lookt for. A foreigner working on the place claimed there were not sufficient bumble-bees in the country to pollenize the flowers properly. Will you kindly give your views as follows?

1. Would the lack of bees account for scarcity of seed?

2 If so, can the bees be imported, and how must they be started?

3. Where can they be obtained, and where should they be turned loose? Any information you may be able to give, or cite me to, will be greatly appreciated. OREGON.

ANSWERS.—1. Yes, the lack of bumble-bees is sufficient to account for the lack of bees. Bumble-bees do not, like hive-bees, start with a full colony in the spring. A single bee begins the nest, so that when red clover is in bloom the first time, bumble-bees are very scarce, and no one ever counts on saving seed till the second crop. Probably the only reason that the second crop is so much better for seed than the first is that by the time of the second crop the number of bumble-bees has increast many fold.

2 and 3. I don't know where to refer you as to the desired information. From some experience I had when a boy with a colony of bumble-bees that I captured and tried to domesticate, I should advise as follows:

In the first place, determine whether there are no bumble-bees in your region. It is possible that altho they may not be in sufficient numbers there are yet a few nests in the neighborhood, and, if so, they will probably increase without further importation. If there are none present, by all means get at least one colony. Get some friend in a region where clover seed is raised, or in any region where bumble-bees are plenty (in all the older States they are plenty) to send you by mail or express a colony of the bees, nest and all, as found by the boys in the meadow. Something like a cigar-box will hold them, with holes for air. Along in June will be a convenient time, probably. Put the nest in a sheltered place, perhaps in the side of a barn or other out-building, with a hole thru the wall for the free passage of the bees, and pack some old cloths about the nest. An advertisement in this paper would probably bring plenty of responses from those who would send you the bees, possibly some one close by.

Propolis on Unfinisht Section-Combs.

1. Last fall I took off some sections that were half or two-thirds drawn, which I thought would be quite a help for the coming season. Now, in making up my supers, I find these sections have a slight rim of propolis on the cells, which in my hurry last fall I did not notice. Is this what is called "travel-stained?" They look as if the bees had put it there purposely.

2. If I use these sections will the bees clean them all right for honey, or will it be better to make a cake of wax of them and have all new?

I had some fine honey last year and do not care to spoil my reputation by giving my customers bee-glue to chew. The combs look very nice, with the exception of this extra finish the bees gave them. Of course, there is some bee-glue on the sections, but when I sell my honey I am not particuler to scrape them free of this. If left on, people know it is genuine honey that they buy, and they do not complain. MASS.

ANSWERS.—1. That's probably a little more propolis than would usually be called travel-stain, altho it lies somewhat in the same line. The bees undoubtedly put it there purposely, because you left the sections on after honey stopt coming in, and as they didn't know what else to do with them they thought you wanted bee-glue on them. Next time, take the sections off when the honey-flow stops, even if you have to put them back again afterward.

2. No, don't think of using these sections as they are, nor with the least bit of honey in them. The bees will not remove a particle of the glue. Better melt them up, or, still better, remove the propolis with a Taylor Handy comb-leveler.

Methods of Introducing Queens.

Having seen in your paper two plans for introducing queens (pages 433, 547 and 644, 1899) and having tried the one with the wire cage stuck into the comb, with indifferent success, and considering the other very cumbersome, I have planned and made a cage as described below, which I think is an improvement on any other I have seen, tho I have not given it a practical test as yet:

Take a frame and rip it carefully in half lengthwise; cut away from the top of the inside edge of each end-bar, enough to allow for the spacing projections on the frame; tack a narrow strip of separator to the outside of all the half end-bars, then, with short pieces of separator nailed to the end-bars, connect the two half-frames at such a distance apart as will allow a frame to slip down between them. Now tack a piece of wire-cloth, as wide as the frames are long, from the top on one side around to the top on the other. Two cuts about an inch long and an inch apart, can be made from the top of the wire on one side, so as to make a door by which to introduce the queen. You have then a cage, which, when the frame is slipt in, is quite bee-tight. When you wish to use it, take a frame of brood with some honey, that has bees just emerging, place it in the cage, then open the little wire door and allow the queen to run in on the comb, close the door with a couple of tacks in the top-bar, place the cage in the hive, and after 48 hours, or longer if thought necessary, the door may be opened, or the frame removed from the cage and placed in the hive.

BRITISH COLUMBIA.

ANSWER.—If it were ever safe to say a thing is all right before it has actually been put to the test with the bees, I should say unhesitatingly that your plan is all right, and enough better than the wire-cloth cage plan to pay for all the extra trouble. I had already planned to try something in the same line, only my frames have top-bar, end-bar and bottom-bar all the same width, so instead of having a cage in which to slip a frame, I can tack a wire-cloth cover on each side of the frame. Of course you will have no unsealed brood in the comb used, and the more mature the sealed brood is, the better.

Please send us Names of Bee-Keepers who do not now get the American Bee Journal, and we will send them sample copies. Then you can very likely afterward get their subscriptions, for which work we offer valuable premiums in nearly every number of this journal. You can aid much by sending in the names and addresses when writing us on other matters.

AMERICAN BEE JOURNAL.
ESTABLISHT IN 1861 OLDEST BEE-PAPER IN AMERICA
DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS

PUBLISHT WEEKLY BY
GEORGE W. YORK & COMPANY,
118 Michigan Street, Chicago, Ill.

[Entered at the Post-Office at Chicago as Second-Class Mail-Matter.]

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IMPORTANT NOTICES:

The Subscription Price of this journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "Dec00" on your label shows that it is paid to the end of December, 1900.

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Advertising Rates will be given upon application.

VOL. 40. MARCH 8, 1900. NO. 10.

EDITORIAL COMMENTS

NOTE—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

Gathering Grapes When Bees are on the Bunches.—The Critic of the Bee-Keepers' Review refers to Mr. Hasty (American Bee Journal, page 711), "gently apologizing for the grape-man," and thinks there is danger of granting too much as to the trouble of bees in vineyards. Away from home bees do not volunteer to sting, and Mr. Hasty is granting too much when he speaks of the man in the vineyard with "one eye closed, and hands swollen too stiff for service." Mr. Taylor says:

> "I, at least, am glad of the help of the bees in gathering up the juices so that it may not aid in hastening the bursting of the sound grapes adjacent, and only regret that they can not gather it more quickly."

Isn't that a new theory, that moisture on the outside of a grape will hasten its bursting? If confirmed it will certainly not be objected to by bee-keepers.

Newspaper Rot About Bees and Honey.—Why is it that books and papers reliable in other respects will be so utterly unreliable in matters pertaining to bees? It is doubtful that there is a better, brighter, cleaner, and more reliable daily paper in the world than the Chicago Record, and yet its issue for Feb. 17 shows that it has been imposed upon to the extent of a column and a half of stuff whose chief distinction is its improbability. It is headed "Cave of Wild Honey," and a few extracts will show that it is much after the usual manner of yarns about big caves filled with honey:

> "Bees work the year round"—"they never have to stop working on account of lack of material or bad weather"—"tons of it; in clefts in the rocks; in hollow trees, in caves, and in the famous 'Devil's Punch Bowl,'" "out of which bees swarm always in clouds so thick that at a distance of two or three miles it has the appearance of a great signal smoke."

How's that? These best honey-districts, it is said, are about 125 miles from Del Rio, Texas, and when the honey is strained and brought on burros to Del Rio it brings 15 cents a pound! A man could make a lot of money by buying up extracted honey in Chicago and shipping it to Del Rio.

Sticking Labels on Tin.—The Australian Bee-Bulletin says that for sticking labels on tin, flour and water well blended and boiled, with perhaps a little alum to preserve it, is as good as any.

Improving Our Stock.—Except by buying new queens there probably never was a time when so much attention was given to improvement in breeding as at the present. But that "so much" is comparatively little, and Editor Hutchinson, of the Bee-Keepers' Review, helps to send the ball rolling after the following fashion:

> "Our hives and methods of management are probably not perfection, but they are pretty fair, at least; our methods of putting up honey and marketing it may possibly be considerably improved; but at present the most promising field in which to turn our energies loose is in that of improving our stock. Too many of us look upon bees as *bees*, in something the same way as a country merchant buys butter—it's all butter. The man who has kept bees many years, trying different strains, and keeping his eyes open, well knows that there is a difference in bees. The most of us know this. The trouble is, that we do not put our knowledge into practice."

Addressing Packages of Honey.—There has been quite a little said lately about the honey-producer putting his name and address on the packages holding his crop of honey when shipping it to market. We want to give a few words of caution on this subject. We have had a little experience in handling honey produced by others, and believe we express the desire of the great majority of honey-dealers when we say *we* don't want the producer's name and address on the packages of honey we purchase.

Does the farmer put his name and address on the bags of wheat, corn and potatoes he sells? Does he brand the cattle, hogs, horses and poultry that he raises for market? Does he put his name and address on the eggs, butter, etc., that he produces for others to eat? Of course not. Then why put it on honey?

For example, we have spent a good deal of money and time in advertising and working up a demand in Chicago for "York's Honey"—is any one fool enough to think that we would put honey on the market here with somebody else's name and address on it? Suppose we should furnish some grocer with a case of nice comb honey having on it, "Produced by Walker Wheelering, Honeytown, Wis." What is there to hinder that grocer ordering his whole supply next year from Mr. Wheelering? Then, of course, he would sell to the grocer at two or three cents under the market price, as some unbusinesslike bee-keepers do here every year. What is the result? Our salesman calls on Mr. Grocer, and is met with, "Oh, I'm supplied. I bought this fine lot of comb honey in Wisconsin, at 13 cents a pound, while your price is 16 cents."

Or, the grocer may go down on South Water Street and tell some honey-dealer there that he bought "just as good comb honey as that for 13 cents," when the dealer is trying to hold the price up to 15 cents.

If some bee-keepers should decide to address their honey-packages, we would not be surprised if some dealers would refuse to handle it. *We* certainly should. We can't afford to spend hundreds of dollars in creating a demand for honey, and then permit our honey customers to get their supply direct from the producers. It not only is unjust to us, but demoralizes prices all around.

Again, the producer, of course, would want to label only his best grades, and likely try to shove off on the dealer the poorer grades, and perhaps generously "kicking," besides, if a good price were not realized on the inferior honey.

There are always two sides to a question like this. Bee-keepers should co-operate with the wholesale dealers instead of each trying to go it alone, except in their home market.

It is all right for the bee-keeper to put his full name and address on all the honey he retails himself, but not on that which he ships to another to sell, unless he first has permission to do so from the one to whom he ships the honey.

The Illinois State Food Commission has located in the Manhattan Building, on Dearborn St., between Van Buren and Harrison Sts., Chicago, Ill. Hon. Alfred H. Jones, the new commissioner, has just issued a pamphlet giving the "laws of Illinois relating to the office and duties of the State Food Commission and the adulteration of butter, cheese, milk and other foods, with rulings thereon." It also contains the rules adopted by the State Food Commission, which are to govern in determining as to adulterated articles. Here is the rule applying to honey:

> "Honey adulterated with glucose or any other substance not deleterious to health may be sold when labeled 'ADULTERATED HONEY.'"

It seems to us that when so labeled, there won't be much of that stuff sold, and the pure article of honey will have a fair chance.

We presume that copies of the pamphlet referred to may be had by those interested, by writing to Commissioner Jones, as directed above.

Illinois Apiarian Statistics for 1899.—In the Statistical Report of the Illinois State Board of Agriculture for Dec. 1, 1899, we find the following under the heading, "Bees and Honey:"

> The year 1899 was a very poor one for bees and honey, a smaller amount of honey being produced than ever before, but 398,025 pounds being reported. Of this amount Northern Illinois produced 193,377 pounds, Central Illinois 103,718 pounds, and the Southern division of the State, 100,930 pounds.
>
> The average price obtained for honey was 13 cents per pound, thus returning to the bee-keepers of the State $53,369.
>
> The number of colonies of bees in the Northern division of the State was 20,035; in the Central division 16,565, and in Southern Illinois 18,583, a total of 55,183.

We notice in the above nothing is said as to whether or not the report covers both comb and extracted honey. The price per pound of course refers to comb honey. After all, such statistics are not very reliable, and yet we presume there ought to be some commendation offered for at least attempting to get them.

Bees and Honey in Europe.—The British Bee Journal some time ago publish these paragraphs:

> "Germany, which has 1,910,000 colonies of bees, producing 45,000,000 pounds of honey every year; Spain has 1,690,000 colonies, producing 42,000,000 pounds of honey; Austria, 1,555,000, producing 40,000,000 pounds of honey; France, 950,000, producing 22,000,000 pounds; Holland, 240,000, producing 6,000,000 pounds; Russia, 110,000, producing, 2,000,000 pounds; Denmark, 90,000, producing the same; Belgium, 200,000, producing 5,000,000 pounds; Greece, 30,000, producing 3,000,000 pounds.
>
> The annual production of honey in Europe is calculated to reach 40,000 tons, valued at £2,200,000, and of wax 15,000 tons, of the value of £1,350,000. A colony of bees produces from 20 to 50 pounds of honey yearly, according to its size, and multiplies tenfold in five years."

But we shouldn't wonder at it if apiarian statistics in Europe are about as definite as are those to be found on this continent. It is well nigh impossible to secure figures at all accurate. We notice that Great Britain is not mentioned in the list.

Organization Among Bee-Keepers has some earnest words said in its favor by R. C. Aikin in the Bee-Keepers' Review. Band together, select a few of your best business men to do the work for the rest, and pay them for it. These managers can keep informed about supply and demand, and hold up prices somewhere near the right point. Mr. Aikin very pertinently says:

> "Why should buyers go about among producers and offer five cents for honey that is worth much more, and because they can buy from my neighbor at that, use it for a lever to pull me to the same price? Just such things are done, and will continue to be done until we organize and post ourselves."

The Weekly Budget

MR. GUS DITTMER has sent us a copy of his catalog for 1900, describing the bee-supplies he has for sale. He makes a specialty of comb foundation. See his advertisement in every number of this journal.

* * * * *

MRS. DAVID EVANS, of Placer Co,, Calif., kindly sent us, two or three weeks ago, blossoms of the fragrant manzanita, which she says is the earliest honey-plant of the foot-hills of Placer County, growing in great luxuriance over the hills, and blooming from January to March or April.

* * * * *

MR. M. H. MENDELSON, of Ventura Co., Calif., writing us Feb. 26, said:

> "We had an interesting and instructive convention at Los Angeles, Feb. 21 and 22. Messrs. Oliver Foster, of Colorado, and Frank McNay, of Wisconsin, with other noted bee-men, were present. We will have another bad honey year for Southern California. No rain for nearly two months, and the country drying up again."

* * * * *

VERMONT ON THE RIGHT TRACK.—The premium list of the Vermont State Fair contains this paragraph, which ought to find a place in the lists gotten out by every fair in our whole country, and then be thoroly enforced:

> "Now, then, three-card monte and shell-game men, snides, gamblers, fakes and bums of every sort, kind and description, take notice! That gambling of every sort and form, and the sale of beer, ale, wine, or other intoxicating liquors will be excluded from and about the grounds. If, as you say, we can not run without you and your goods, we will close our gates. We neither want nor will we tolerate you; and by this we serve notice upon you that, if you come, prison-doors yawn for you.".

The Premiums offered on page 158 are well worth working for. Look at them.

BEEDOM BOILED DOWN

An Old Colony.—A. Tobias has a colony that has been in the same hive continuously without intermeddling for 50 years.—Leipzg. Bztg.

Milk-Feeding in Spring is the best to stimulate brood-rearing, where pollen is lacking, says Dr. Dzierzon in Leipz. Bztg. Fresh milk is boiled and made very sweet, especially at the beginning, and fed in old combs in the open air.

Winter Bee-Flights seem not desired in Germany. Lebrecht Wolf says in Deutsche Illustrierte Bztg. that formerly it was thought to be a good thing if the weather allowed a flight in January; but now it is generally considered a disadvantage to have a flight in December, January, or the first half of February, and every effort is made to prevent it.

The Need of Air for Bees increases with the temperature. A bee was sealed in a little glass tube, which was placed in water, and by means of ice and hot water kept at a fixt temperature. For lack of air the bee became stupefied, and revived on being allowed fresh air. At 100° it was suffocated in 11 minutes; at 85° in 22 minutes; and at 60° in 109 minutes.—Pfaelz. Bzcht.

No Wax-Moth in Colorado is the statement of R. C. Aikin in the Bee-Keepers' Review. He says: "At our conventions many have askt about the moth, and it is a fact that I have never found moths here, nor any apiarist that even knows the moth, unless having made its acquaintance elsewhere. Combs can stand anywhere here for years, and never a wax-moth."

Frank Rauchfuss says: "The claim of Colorado honey being infested with moths is amusing, as there are no wax-moths in existence in this State."

Introducing Queens.—R. Beuhne says in the Australian Bee-Bulletin:

"For introducing queens from my own nuclei I simply take the queen from the nucleus with the comb and bees she is on, and exchange for a comb with brood, bees and queen (if there is one), from the hive she is to be introduced to. For a queen received by mail I take one frame of bees and brood from each of four or five colonies, about noon (taking care to leave the queens behind), and put them into a hive with contracted entrance on a new stand, and put the new queen amongst them, at dusk.

A Good California Report.—F. E. Brown, secretary of the Central California Bee-Keeping Association, gives the Hanford Sentinel an interesting account of the bee-keepers' experiences for the year in his section—the San Joaquin Valley:

PHASES OF THE YEAR.—The season of 1899 was a very successful one for the bee-keeper of this (Kings) county, as it was the best season for the production of honey that we have had in the past 10 years. The honey-flow commenced early in June and flowed steadily until late in September, and was quite general over the county. However, there were some localities that did not fare quite so well as others. The most favored parts of the county the past season were the eastern and southern, while the western did better than the northern. However, this is not usually the case, as the northwestern portion of the county has a good record for quality, which, as a rule, is darker than that produced in the part south of Hanford.

Along with the good work that the bees have been doing the past season, the Central California Bee-Keepers' Association has also accomplisht a good work, and as a result the man who has a good start in the bee-business can look the world square in the face this winter, and is not afraid that he will be called upon to pay a bill that he cannot meet.

CO-OPERATIVE MARKETING.—The Bee-Keepers' Association has this season marketed its own honey and bought its cans and cases by the carload, thus keeping within its ranks a great saving, which has heretofore helpt to flush the comforts of the buyers, as we can market our honey a great deal cheaper than the buyer would want for his part. We have demonstrated beyond doubt the fact that we can save $10 on every ton which we have to market, which means a net gain to the association for the past season of $1600. Is it any wonder that there are so many buyers in the field wanting our honey to speculate upon?

We can save at least 5 to 10 percent by handling our own cans and cases. Then, by being associated together, we are better prepared to grade our honey, which gives it a better appearance. Heretofore we have bought our cases anywhere and everywhere, no two cases being the same or of the same weight, and there was always difficulty in adjusting the tare.

THE CROP.—Kings County, for the season of 1899, produced and handled thru the association, 13 cars of extracted honey, or 162 tons, which netted the producers something over $19,000. The association shipt in and used 5 carloads of cans and cases, the honey being mostly sold f.o.b. Hanford and Guernsey, and shipt to Chicago, Boston, New York, Kansas City, Philadelphia and San Francisco.

The coming season promises to be another good one for the honey-man, and there is a good swarming season expected.

Oil in Beeswax.—A Stray Straw in Gleanings in Bee-Culture is as follows: "The Leipziger Bienenzeitung reports that some foundation made of pure wax 10 years old was very brittle. A few drops of linseed oil were mixt with the melted wax, and then the foundation was all right. [I am not surprised that foundation 10 years old should be brittle—at least if it were of the old process, which it undoubtedly was; but if the foundation under consideration was melted up again, and then workt up again into foundation, it would be soft and pliable whether linseed oil were melted up with the wax or not. I am of the opinion that linseed oil had nothing to do with it. Anything of an oily nature should be left out of the wax, otherwise the bee-keeper will have a mess on his hands some day when the weather is pretty warm.—ED.]

Dr. Mason Invading Critic Taylor's Preserve.—If Dr. Mason doesn't keep a sharp lookout, he will stray over the fence into Critic Taylor's foraging ground. In the last number of the Bee-Keepers' Review, he quotes the assertion that bees do not and cannot move and redeposit eggs, only to give his own assertion in positive contradiction, saying, "Several years ago one colony of our bees *did* move and redeposit several eggs, and they hatcht, and from one of the redeposited eggs they reared a good queen." In another place he takes a whack at Doolittle because Doolittle pokes fun at his use of "locality." For this latter one can not blame him, for however much we may joke about the laying everything to locality, there is no disputing the fact that the one who reads bee-literature without ever taking locality into account, is likely to get into a quagmire.

The Busy Bee well deserves its name. A. Astor fed a markt bee which workt from 6 a.m. till 5 p.m., making 110 trips a day, and kept it up for 12 days. But it aged terribly in that time.—Revue Int. On the other hand Prof. Hodge's bees workt only 3½ hours a day. [Now, if we had a national experiment station, or experiment station of any kind, in this country, making bee-keeping a specialty, here would be a nice field for investigation; and there would be something practical to be learned from it, too. For instance, what strain of bees make the greatest number of trips in a day? and does the amount of honey depend upon the number of trips? Perhaps some bees have larger honey-sacs as well as longer tongues.—ED.]—Stray Straw in Gleanings in Bee-Culture.

A Refutation of the Miller-Experiment as to larvæ chosen for queens occupies the whole of Critic Taylor's space in the January number of the Bee-Keepers' Review. Perhaps "refutation" is hardly the word. "Review" is what Mr. Taylor calls it, unless the heading be written by the editor. At any rate, Mr. Taylor follows up different points to show that instead of Dr. Miller having proven what he supposed was proven, the exact opposite was proven, and closes by saying: "The Doctor's experiment is very valuable; but principally because it establishes the fact that this method of queen-rearing is neither desirable nor safe."

Root's Column

OUR 8-FRAME DOVETAILED HIVE WITH IDEAL SUPER HOLDING 30 3⅝x5x1½ INCH PLAIN SECTIONS.

Some of our customers want a super very plain, no fixings. To meet the demand for a very simple hive, yet embodying the valuable features of the deep plain sections, we devised this super. It already has a large sale. It is specially adapted for those who want a super for

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HONEY.

YOU WILL DO
WELL TO
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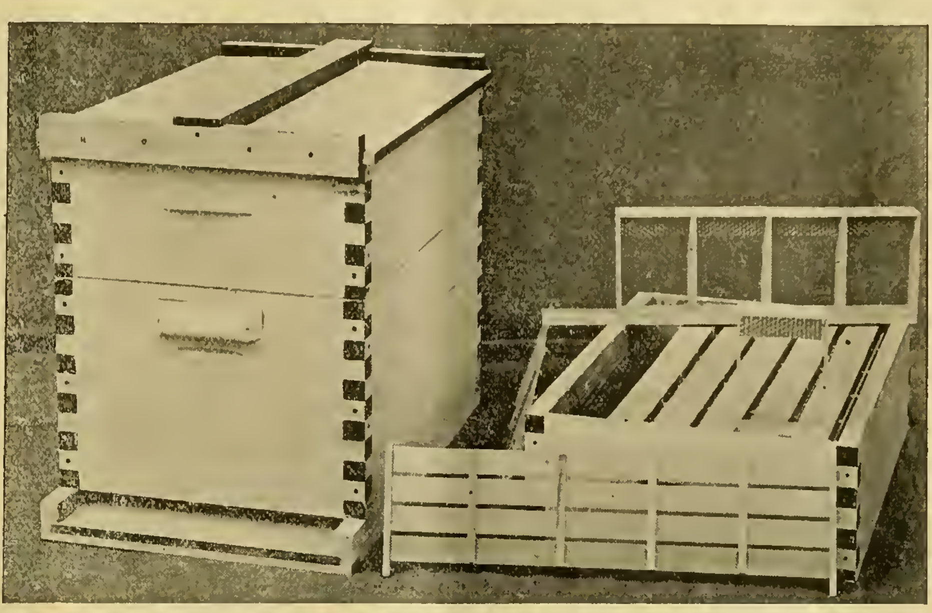
SUPER.



What Others Say of Root's Plain Sections and Fences:

I had your plain sections in use with fences, and I must say that I am pleased with them, particularly the 3⅝x5x1½ sections. They were very nice, better filled than the old style, and made a great deal better show, so much so that they brought me a better price, and they sell much quicker. I am so well pleased that I will use none but plain sections this season, and have sent my order for such.

P. I. HUFFMAN,
Alphin, Va.

THE A. I. ROOT CO., Medina, Ohio. 131 W. Bridge St., Beloit, Wis., Feb. 9, 1900.

DEAR SIRS:—After three years' experience with the Danz. hives I can say that I like them very much, especially the closed-end frame feature, also the super and plain 4x5 section and fence. I have no trouble at all in keeping the fence separators clean, and that, too, in a locality where propolis is very abundant, as my apiary is in the central part of this State where pitch and other resinous substances ooze out of the pine and other trees and stumps in unimaginable quantities. Here, too, I find the closed-end frame very easy to manipulate, for the reason that they are wedged up together, and offer no space nor cracks to be stuft full of the horrid stuff.

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A Dozen Different Blossoms From a Single Seed.

This is possible only with our wonderful novelty, the new

Chameleon Nasturtium

In richness and variety of coloring it surpasses all others. Mammoth size, perfect flowers of crimson yellow, blotched and mottled in perfect shadings. Value alone 10c. For 14c we will send you a pkt. of Chameleon seed and one pkt. each of these

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GENERAL ITEMS

Report for the Season of 1899.

Last season was a poor one for honey. I secured 2,000 pounds of honey, and increast from 42 to 64 colonies. I have not lost any bees that I know of so far this winter.

A. T. SCOTT.

Shelby Co., Iowa, Feb. 27.

An Experience with Bees.

In the fall of 1897 I got a copy of "A B C of Bee-Culture" and began reading it. The result was that I had, in a very short time, a bad case of bee-fever (so called). In March, 1898, I persuaded my brother to embark with me in my new venture. Accordingly I started for North Carolina, a distance of about 100 miles, where my uncle lived, who was a bee-keeper, for the purpose of buying bees—all I could pay for. But after getting his advice I took only five colonies; hired a man with a team, loaded them into the wagon, and rolled out over the roughest road, considering the distance, I have ever seen.

After driving four days we arrived home with the bees in fairly good condition. We gained three colonies during the season, making eight in all, which, when fall came on, we divided equally. My four came thru the winter pretty well excepting one, which remained weak till later in the season of 1899. I got two nice swarms in April, and increast to 15 colonies by natural swarming, excepting two nuclei which I made. One swarm took Greeley's advice, or I would have had 16. I also sold $14.80 worth

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if you have the right kind and know how to handle it. The best kind and the best way to make money with them is told and fully illustrated in our Mammoth Annual Poultry Guide. Tells all about 30 varieties of fowls, and their treatment in health and disease; plans for poultry houses, recipes treating all diseases, etc. Gives lowest prices on stock. Sent for 15c.

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"WATCHING THE GAP,"

is a lost art. Page Gates did it. Send for description.

PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.

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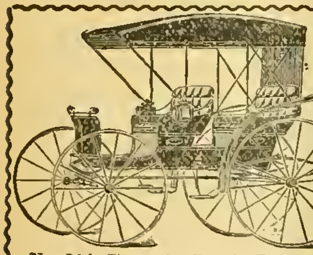

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This is a question that every man should ask himself when it comes to a business proposition. For instance, we manufacture **vehicles and harness** and sell them to you **direct from our factory at wholesale prices.** On this plan the saving to you is **about 35 per cent;** that is, you would have to pay local dealer or agent about that much more than you pay us for the same quality of goods. **Is not this item worth saving?** We make 178 styles of vehicles and 65 styles of harness and are the **largest manufacturers of vehicles and harness in the world selling to the consumer exclusively.** We make every article we sell and ship **our goods anywhere for examination** and guarantee safe arrival. You have the advantage of large selection, newest designs, latest styles, &c. Above all you have a guarantee of quality at a reasonable price. **144-page illustrated catalogue FREE.**

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That covers the whole Apicultural Field more completely than any other publisht, send $1.25 to Prof. A. J. Cook, Claremont, Calif., for his

Bee-Keepers' Guide.

Liberal Discounts to the Trade.

A Remarkable Feat—An incident not included in the program at the Poultry Show at the Mechanics' building, but which bids fair to become the most interesting of the exhibition, was brought to light yesterday afternoon.

The Des Moines Incubator Co., of Des Moines, Iowa, had engaged space in the main hall to exhibit their "successful" incubator, and yesterday to the surprise and utter astonishment of all present, they opened the incubators, which had come on express trains from Des Moines to Boston, and displayed 1,500 eggs in very active hatching.

From the president of the company it was learned that the eggs were started to incubate in Des Moines Dec. 27, and arranged so as to hatch on different days at the show. Jan. 13 the incubators were shipt by express trains to Boston, a distance of almost 1,400 miles, including a wagon transfer of two miles in Chicago over cobblestone streets. These incubators are shipt with an ingenious automatic appliance which regulates the temperature so that the company had nothing to contend with in that direction by having the machines exposed on the journey; but to bring them over the road amid the constant jolting and jarring of the trains, the fact that the eggs were not ruined is little short of a miracle. Up to the time of going to press over 1,000 eggs had hatcht successfully.

This is the first expedition of its kind in the history of the poultry trade, and is without doubt the greatest test ever given an incubator company. The result will attract universal attention and keep the fraternity guessing for some days to come.—Boston Globe, Jan. 19, 1900.

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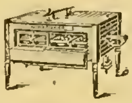

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F. A. SNELL, Milledgeville, Carroll Co. Ill.

4A12t Please mention the Bee Journal.

of honey, besides what was used in my family. My 15 colonies seem to be in a fair way to pull thru, altho it has been very unfavorable this winter. R. L. DAVIS.
Tazewell Co., Va., Feb. 26.

Bees Didn't Do Well.

My bees did very poorly last summer. I started in last spring with 27 colonies, and increast to 41 in the fall. I lost two in the fall by robbers, and put 39 in the cellar. All are quiet, but I think I shall lose one. I think it had no queen when I put them in. My honey crop was about 500 pounds for the season. IRA PURDY.
Wood Co., Wis., Feb. 25.

Not Foul Brood.

On page 99 is an article from Mr. Rockenback on foul brood in Cuba. He says that two weeks after he treated his colonies by my methods of treatment that he found all the capt brood black and rotten, and that they were worse than ever with foul brood. It was dead brood of another kind, and not foul brood that Mr. Rockenback found in those colonies two weeks after he treated them.

I have no doubt that many apiaries in Cuba are in a bad condition with foul brood, and dead brood of other kinds. I am also certain that every apiary on the island can be cured of any disease.

I would like to know all about the nature of the honey seasons in Cuba, when they begin and end, what the bees gather honey from, its quality, and the average yields of extracted honey that can be taken in a fair season by a good bee-keeper.

WM. MCEVOY.
Woodburn, Ont., Feb. 26.

[We would like to have some one who is able to do so, kindly send us answers to Inspector McEvoy's questions.—EDITOR.]

Crop Nearly a Failure.

We lost about 33 percent of our bees in the winter of 1899, and our crop of surplus honey last season was almost a total failure—only 150 pounds from 16 colonies, spring count. I increast to 25, and they went into winter quarters strong in bees and with plenty of honey. They have had but one flight since the last of November, that was from Jan. 21 to 24. They are doing well up to the present time, so far as I am able to judge, but I don't feel like shouting until I get them "thru the woods." March and April is the dead line for bees in this climate.

I winter bees on the summer stands, in an outside case with a Hill's device on top of the frames, covered with burlap, well packt in chaff, with 6x3/8 inch entrance, and shade-boards in front. I will be disappointed when the warm days of spring come if any fail to report for business.

Floyd Co., Iowa, Feb. 20. L. JONES.

A General Report.

We are having a nice winter for bees. They had a good flight nearly every day in January. Last spring I had four colonies and increast to nine, but the honey crop was poor. It was a little too dry late in the summer, and I am afraid that lots of the bees will die, because there will not be enough young bees to pull thru the winter.

I winter my bees on the summer stands. I tried it one winter in the cellar, but it was not as successful. I make a little tick just the size of the hive, and fill it with chaff and put it over the frames. It draws the dampness. Then I set the hives about one foot apart, side by side, and pack straw or old hay between and all over them, except the fronts. This way, when there comes a mild day, they can have a flight, which I think is better than to be shut up in a prison cellar.

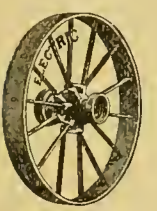
I don't get honey fast enough for my customers. I get 15 cents for extracted and 20 cents for comb honey, and can't supply them. I don't need to get little pails to put it in as they take it from the extractor in gallon lots. If I only had lots of bees I could make more out of them than in farming.

I saw an article some time ago where a writer claimed that eggs were left where the queen laid them. I don't think so. I tried one colony. It had six old combs, so I fixt up four more frames with full sheets of foundation, and put two on each side of the old ones. The bees went right to work and drew them out. When out about half way I lookt at them, and they were full of eggs, some cells having two and three in them, but the old combs had none at all. I lookt the next day, and there was not an egg to be seen in the new comb; they moved them to the old combs to hatch.

The prospect is good for this year. I use 10-frame hives, as I think they are the best. It looks reasonable that the more room the bees have the more bees you will have to

Farm Wagon Economy.

The economy of this proposition is not all found in the very reasonable price of the wagon itself, but in the great amount of labor it will save, and its great durability. The Electric Wheel Co., who make this Electric Handy Wagon and the now famous Electric Wheels, have solved the problem of a successful and durable low-down wagon at a reasonable price.



This wagon is composed of the best material thruout—white hickory axles, steel wheels, steel hounds, etc.; guaranteed to carry 4,000 lbs. These Electric Steel Wheels are made to fit any wagon, and make practically a new wagon out of the old one. They can be had in any height desired, and any width of tire up to 8 inches. With an extra set of these wheels a farmer can interchange them with his regular wheels and have a high or low-down wagon at will. Write for catalog of the full "Electric Line" to Electric Wheel Co., Box 16, Quincy, Ill. Mention the Bee Journal.

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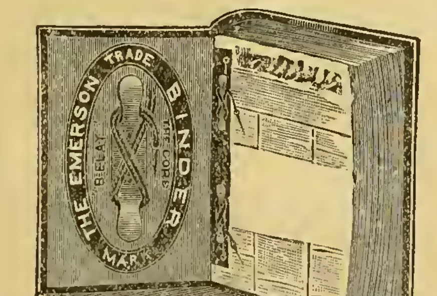

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

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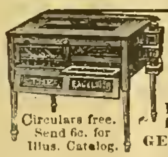

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GEO. H. STAHL, Quincy, Ill.

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New Aids to Truck Farming.—The number of firms in business to-day that have an unbroken record of half a century is comparatively small, but the Ames Plow Co., of Boston, Mass., is one of the few. However, their new catalog now before us shows that pride in their past does not monopolize their attention. We do not remember to have seen a more modern line of hand-cultivating tools anywhere. Prof. I. P. Roberts, author of "The Fertility of Land," forcibly says: "The one fundamental labor of agriculture is the stirring and mixing of the soil." Truck farming more than any other requires the benefit of all the cultivation it is possible to give, and in these days of close competition, the judicious selection of implements is productive of increast returns in the way of larger and better yield at reduced cost. Truck farmers and gardeners generally understand the sterling qualities of the genuine Mathews Seeder, which they have known for so many years, and those prime favorites, the Mathews New Universal, as the latest improvements are called, are popular everywhere. The whole line of separate drills and wheel hoes is the most complete ever offered. Send for free book illustrating and describing this means of success in the Market Garden, to Ames Plow Co., Boston, Mass., and mention the American Bee Journal.

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A full line of Supplies at the very lowest prices, and in any quantity. Best quality and prompt shipment. Send for large, illustrated catalog.

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INCUBATOR FREE on trial. The New C. Von Culin is most perfect in ventilation, moisture and heat.

HATCHES EVERY HATCHABLE EGG. Money made and saved. Catalog FREE. Poultryman's Plans, 10c. Address.

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Field and Hog Fence with or without bottom cable barbed. M. M. S. Poultry Fencing. Lawn and Farm Steel Gates and Posts.

UNION FENCE CO. DeKalb, Ill.

3A13t Please mention the Bee Journal.

gather the honey. It is just like having a lot of men to do a lot of work—more men, more work is done. Besides, I don't believe they will swarm so badly.

VIRGIL ROGERS.

Buffalo Co., Neb., Feb. 24.

Bees in Good Condition.

Bees are wintering well so far in this locality. Some of my neighbors are wintering theirs on the summer stands, and they seem to be all right. But this has been a mild winter up to a week ago when it turned cold and snowed, which is still on the ground, and it is a good thing that there is snow, as it will protect clover and other plants. So far clover looks all right, and I don't think it will freeze any more, for it is getting along toward the first of March. The mercury has been 7° and 8° below zero, but it is getting warmer again.

My bees are wintering nicely in the cellar that I built last fall. It is made of river stone, which I dug myself, and did the mason-work myself. I work at the mason trade when I can get away from my bees. I am going to run a small nursery with my bees, as I think every bee-keeper ought to raise some fruit, so that his neighbors, who do not keep bees, and claim that his bees injure fruit, can be convinced that they do not, but that they help to fertilize all kind of fruits and some farm crops, such as clovers. I think that alsike is one of the best of clovers for hay and pasture, and it will stand a damp and cold soil better than the common red. Another advantage alsike has over the other kinds is that the bees can and do work on it more readily. It is this work done by the bees that causes it to bear seed the first crop, and in this part of Illinois it gets ripe a little before timothy, so that when the hay is made lots of the seed falls on the ground to come up the next spring and take the place of the old clover.

Last fall I went out thru what little timber there is left in this vicinity in search of bees, and I found three trees one afternoon that had bees, but it was too late to do anything with them last fall, so I thought I would wait until spring, and if they are then alive I will transfer them. While two men were cutting cordwood in this timber this winter, they happened to fell one of these trees that contained a colony of bees that I found. This was Jan. 23, and they came and told me about it. I did not like to see the bees starve and freeze to death, so I fixt up a small hive with some nice combs of honey, and started for the tree. It was nice and warm, so it was not a hard job to get them into the hive, and I brought them home and put them into the cellar. They are doing nicely so far. I think they will come thru all right.

JACOB WIRTH.

Henry Co., Ill., Feb. 19.

Nuclei, Spring Dwindling, Etc.

In the fall of 1898 I had 63 colonies and three 3-frame nuclei, all nicely arranged in chaff hives for outdoor wintering. I did not expect the nuclei to live thru, but thought to try the experiment.

After the well-remembered extremely cold snap (26° to 28° below zero here) was over, there came some nice warm days late in February. On looking the bees over I was surprised to find all alive and apparently in fine condition. The surprise was that the nuclei should endure such extreme cold. In most colonies there was young brood. From that time till April 9 the weather was cold, cloudy or blustery, so the bees could not fly. On April 9 I lookt them over again, and found the three nuclei and 16 colonies dead, and many others very weak. In all the dead colonies there was dead brood. I think my loss was chargeable to early breeding and bad spring weather, rather than the extreme cold.

In the summer I had a colony that I thought was queenless, but in looking them over I was surprised to find a capt queen-cell! I was determined to see what was in it, and on cutting it open *found a drone*

DR. MILLER'S

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One Untested Queen Free as a Premium
for sending ONE New Subscriber
to the American Bee Journal
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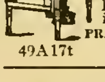

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almost ready to emerge. I suppose it would have been proper to have called "it" a "king."

The summer season was a failure, no honey in the white clover, but on Aug. 25 the flow began on heartsease, and for two weeks was very rich, with quality good.

September 1 a swarm emerged. I lookt for queen-cells and found only one had been started. It had an egg in it. September 3 two swarms came out. I searcht them carefully for queen-cells, and found none had yet been started in either hive. That was all the fall swarms I had.

I have now 67 colonies in chaff hives. They have had frequent flights, are out today (Feb. 12), and seem in fine condition.

I had quite a pile of "slumgum" last fall. Some from a steam extractor and some from a solar extractor. I had gotten out all the wax I could by those presses, but felt sure there was still more good wax in it; so I took two oak boards 2 inches thick, 12 inches wide, and 6 feet long, and hinged them one inch apart at one end with a pair of very heavy strap hinges. I then filled a big iron kettle two-thirds full of water and filled up with slumgum. I gave it a good boiling, and then dipt a quantity out into a grain-sack and gave it a squeeze. The beautiful yellow wax gusht out in great shape. I workt up all my slumgum and got 9½ pounds of nice yellow wax, entirely unstained or injured by the iron kettle. I got big pay for the amount of work it took. C. W. McKown.

Knox Co., Ill.

Evergreen Trees by the Million.—One hundred million trees growing on one farm! It hardly seems possible, yet that is what a correspondent recently saw at the nurseries of D. Hill, the well-known evergreen specialist, at Dundee, Ill., the largest grower of evergreens in the world. Mr. Hill has built up his enormous business by living up to every promise made in his advertisements, and in his catalog. He believes that a satisfied customer is the best advertisement, and he has lots of them. It is a well-known fact that there is no more valuable, serviceable and ornamental tree for the farm than a good evergreen; it will resist any drouth or exposure and forms a valuable wind-break and protection for orchards and stock. The Minnesota State Horticultural Lecturer says that many farms in the northwest have been increast $1,000 in value by well-arranged, generous plantings of evergreens. Mr. Hill issues a good catalog showing different varieties and describing how best to make them grow. Send for it, not forgetting to mention the American Bee Journal.

The Sang Digger.—One of the most picturesque figures in America is the "Sang Digger" who roves over the mountains of the Eeatern States, hunting for the root of the ginseng plent. It is readily converted into goods or money, as the demand for this plant far exceeds the supply. Dealers pay $5.00 and $6.00 per pound for the dried roots. The "Sang Digger" has so depleted the native forests of the ginseng plant that it is becoming scarcer every year. This fact has led to its cultivation with very profitable results. F. B. Mills, the well-known seedsman of Rose Hill, N. Y., is making a special offer on ginseng seed and plants. His advertisement, which appears in another column, offers special inducements which our readers would do well to investigate. Send for his regular seed catalog, which is sent free, and kindly mention the American Bee Journal.

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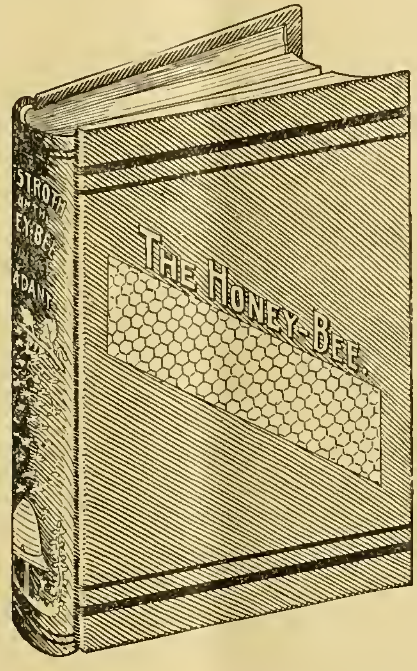

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Convention Notices.

Utah.—The Utah State Bee-Keepers' Association will hold its semi-annual convention in the City and County Building, Salt Lake City, Apr. 6, 1900, at 10 o'clock a.m. A full program in the interest of the industry will be presented, and all our bee-keepers can help themselves by aiding the Association, and in order to create a closer bond of union among our bee-keepers. As a further incentive to the success of the bee-industry, it is very desirable to have our bee-keepers from all parts attend the spring convention.

J. B. Fagg, Sec.

HONEY AND BEESWAX

MARKET QUOTATIONS.

Chicago, Feb. 19.—A little trade in honey in a peddling way by the case, no demand for lots, neither has there been for the past 3 months. Comb honey of the choice grade is selling at steady prices, and there is not too much of it; off grades are slow. Extracted is steady with no change in prices. Beeswax sells at 28 cents if yellow and clean. R. A. Burnett & Co.

Cincinnati, March 3.—There is some demand for extracted honey from manufacturers at 7@7½c for amber and Southern; clover, 8@8½c. Comb honey is selling firm at 14@16½c in a small way. Beeswax, 25@27c.

C. H. W. Weber,
Successor to Chas. F. Muth & Son and A. Muth.

Los Angeles, Feb. 15.—1-pound frames, 12½@15c; 2-pound cans, 2 dozen in case, per dozen, $2.50; 2-pound glass pails, per dozen, $2.50. Extracted, water white, 60-pound tins, per pound, 8½c; light amber, 7½@8c; dark amber, 7½c. Beeswax, 25@26c.

Stocks of honey in all parts of the United States are lower than they have been for 10 years. It is most desirable that rain should come as prices are likely to be high.

Kansas City, Feb. 12.—We quote fancy white comb, 14@15c; No. 1, 13½@14c; No. 2, 12½@13c; fancy amber, 13@14c; No. 1, 12½@13c; No. 2, 12@12½c. Extracted, white, 7½@8c; amber, 7@7½c; dark, 6@6½c. Beeswax, 22@25c.

C. C. Clemons & Co.

Buffalo, March 3.—Market nearly bare of all grades of honey. Probably no more from any source to market, but if so, fancy white comb is firm at 15@16c. Other grades from 14c downward, with the poorest at 8@9c. Fancy pure beeswax continues at 28@30c.

Batterson & Co.

New York, Feb. 8.—During the past 30 days our market has been somewhat slow and easy in both comb and extracted honey. Stocks of comb honey, however, are almost exhausted, and there is a fair demand for all grades. Fancy white selling at 15c; No. 1 white at 13@14c; fancy amber, 11@12c, and buckwheat at 9@11c, according to quality, etc.

Our market is well supplied with extracted, tho prices are firm and unchanged. Beeswax sells very well at from 26@28c, according to quality. Hildreth & Segelken.

San Francisco, Feb. 14.—White comb, 11½@12½c; amber, 8@10c. Extracted, white, 7½@8c. light amber, 7@7½c; amber, 5@5½c; Beeswax, 26@27c.

Beyond the filling of small orders by jobbers, there is practically nothing doing in honey. Offerings are light, and are mainly comb. Quotations are unchanged, but at present represent little more than jobbing rates. A shipment of beeswax was made the past week of 3,200 pounds by steamer to Germany. Stocks are small and prices steady.

Albany, Jan. 10.—We quote: Fancy white comb, 15c; No. 1 white, 13@14c; mixt, 11@13c; buckwheat, 10@11c. Extracted, white, 8@9c; mixt, 6½@7c; dark, 6. Beeswax, 26@28c.

MacDougal & Co.
Successors to Chas. McCulloch & Co.

Omaha, Feb. 13.—Demand shows some improvement in January, having been much more active, but as anticipated there is no advance in prices. Market remains steady at 14@14½c for fancy white comb and 8½c for white extracted. The latter is pretty well cleaned up along the Missouri River, and it looks as if there would be some shortage before another crop comes in. From present appearances there is about enough comb honey to go around at the present prices, hence we look for no particular change in values. Peycke Bros.

Detroit, Feb. 10.—Fancy white comb, 15@16c; No 1, white, 13@14c; fancy amber, 11@12c; dark and undesirable lots, 8@10c. Extracted, white, 7@7½c; amber and dark, 5@6c. Beeswax, 25@26c. Supply of honey fair with light demand.

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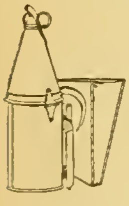

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40th YEAR. CHICAGO, ILL., MARCH 15, 1900. No. 11.

Contributed Articles

Value of Bees in Fruit-Orchards.

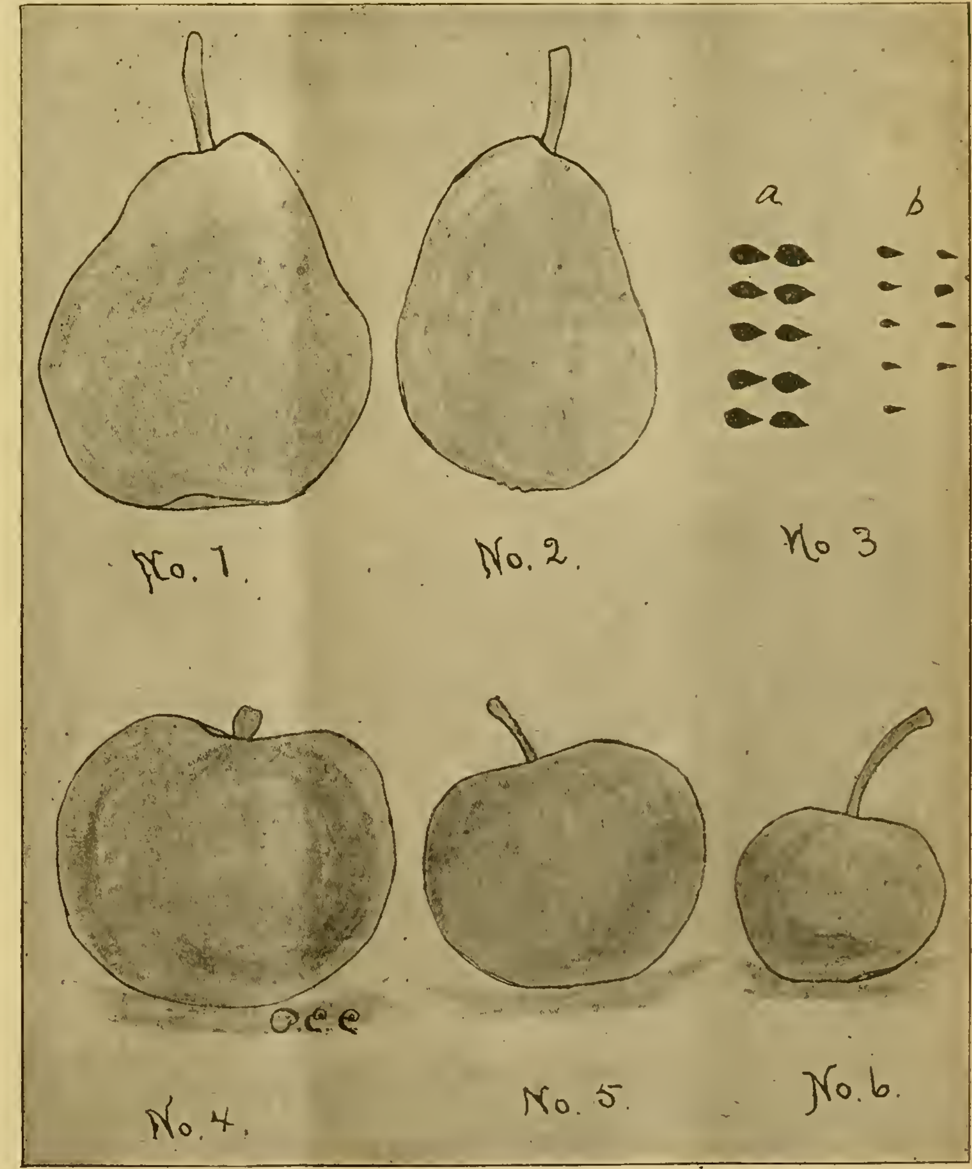
BY J. E. CRANE.

IT is not my object in this paper to thrash over old straw, but rather to gather some golden grains of truth from a harvest of facts that has ripened since the memorable discussion of this subject a few years ago, and gathered into a most interesting symposium.

Perhaps nothing in that symposium was more noticeable than the difference of honest opinion held by many intelligent observers, and for good reasons as the sequel will show. It is an interesting fact that the new light on this subject has come thru the efforts of the fruit-growers rather than the bee-keeper, and that the solution of the problem is a most complete proof of the value of bees to the fruit-grower.

Before giving the new facts that have come to light on this subject, I must tell how it came about.

Many years ago, down in Virginia, a farmer planted out a large pear-orchard. As he was a bright man he thought he would make a very profitable investment, and not plant any unproductive trees. As Bartlett pear-trees are almost universally known as the most productive as well as profitable, he planted his entire orchard of this variety. He cultivated his orchard with great care, fertilizers were applied, and when he lookt for fruit he found "nothing but leaves." But he kept on until his means were exhausted and his place went under a mort-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The Effect of Cross-Fertilization in Enlarging Fruit as well as Seeds.

gage. The new owner thought he had a bonanza in that pear-orchard, and he, too, cared for it until his ability to do so failed, when it past into the hands of another person; but still it failed to yield a crop of fruit. I take it that the last owner had some faith in "book-farming," for he sent to the Department of Agriculture at Washington for a solution of the problem of an unproductive orchard of Bartlett pears. Mr. M. B. Waite, of the Department, was sent down to study the subject on the ground. He guest the trouble to be the lack of cross-pollination with other varieties, and, fortunately, he guest right. More or less of the orchard was grafted with other varieties; but before it came into profitable bearing it was struck with "blight" and ruined. But it had served a useful purpose. A new interest was taken in the subject of the effects of self and cross pollination of fruit-blossoms, and the scientific study of the subject began. This was carried out by taking pear and apple blossoms just before they open, and removing a part of the blossom and then applying either pollen of the same variety or some other variety, and covering at once to prevent insects from interfering. In this way it could be told whether a given variety would prove fertile with its own pollen or not, and just the effects of crossing with other varieties.

As a result of these studies Mr. Waite says: "Many of the common varieties of pears require cross-pollination, being partially or wholly incapable of setting fruit when limited to their own pollen. Some varieties are capable of self-fertilization. Self-pollination takes place, no matter whether foreign pollen is present or not. The failure to fruit with self-pollination is due to sterility of the pollen, and not to mechanical causes, the impotency being due to lack of affinity between the pollen and ovules of the same variety."

"Varieties that are absolutely self-sterile may be perfectly cross-fertile. The normal typical fruits, and in most cases the largest and finest specimens from both the so-called 'self-sterile' and 'self-fertile' varieties, are crosses."

"Self-fecundated pears are deficient in seed, and the seeds produced are usually abortive. The crosses are well supplied with sound seeds."

He gathered most of the cross and self-pollinated fruits resulting from most of his experiments for study and comparison, and found, as a rule, a decidedly better development of the blossom-end of the fruits of those cross-pollinated than those self-pollinated. He found, also, a disposition or tendency in self-pollinated late varieties of pears to wither before ripening, while those resulting from crosses ripened perfectly. My son has offered to copy several of Mr. Waite's illustrations.

Fig. 1 shows a Bartlett pear crost with pollen of Easter pear.

No. 2 shows a self-pollinated Bartlett pear.

No. 3 shows seeds under *a* from cross-pollinated Bartlett pears; under *b*, seeds from self-pollinated pears.

About three-fifths of the varieties of pears experimented upon appear to have been wholly self-sterile, or were greatly benefitted by cross-pollination.

Even with those varieties capable of self-fecundation, the pollen of another variety is prepotent (more powerful); and unless the entrance of foreign pollen is prevented, the greater number of fruits will be effected with it.

As apples blossom soon after pears, a large amount of work was done with them to ascertain the effects of self and cross fertilization. He says:

"In a general way the results were similar to those obtained in the experiments with pears. The division of the varieties into self-sterile and self-fertile sorts was not nearly so well markt.

"Crossing gave decidedly better results in all cases than self-pollination. The Baldwin, which was experimented upon freely, may be cited as a variety that comes as near being self-fertile as any, and yet even this is far from being entirely so; for in the best trees the percentage of fruit resulting from self-pollination was not more than a fourth of that which resulted from crossing. Some of the Baldwin trees, in fact, seemed to be self-sterile, and all the varieties occasionally set self-pollinated fruit."

He does not seem inclined to place much confidence in a strict classification, even of pears, as a variety may be quite self-sterile in one section, as in the North, and yet be quite self-fertile in the South or in some other season.

Among the sorts of pears he found more or less completely self-sterile are the Bartlett, Anjou, Boussock, Clairgeau, Clapp's Favorite, Sheldon, Louisa Bonne de Jersey, and other common varieties. Still less would it be possible to classify apples. A variety may be self-fertile this year and quite the reverse next year, or in one section of country and not in another. The weather at blooming-time is important. He says:

"The weather during the blooming period exerts both a direct and indirect influence on the setting of fruit. Even when not injured by frosts, the blossoms are often chilled by the cold to such an extent as to interfere with fecundation. Moderate cold renders the self-fertile trees self-sterile, and severe cold renders them sterile to cross-pollination as well. Warm and sunny weather at this time indirectly aids the fertilization by favoring insects in their work of cross-pollination."

The results of self-pollination in apples are very interesting. Again I quote from his paper: "The apples resulting from some of the experiments were collected and studied, and the results were found to be parallel with those obtained in the experiments with pears, the crosses being larger, more highly colored, and better supplied with seed. For example, *the hand-crost Baldwin apples were highly colored, well matured, and contained abundant seeds*, while the self-fertilized *were only slightly colored, were but one-fourth to two-thirds the regular size, and seedless.* The crosses were, in other words, like the better specimens of apples not bagged from the same tree, and the self-fertilized fruits corresponded with the undersized, poorly-colored specimens from the same trees." The italics are my own, for I wisht to call attention to the inferior quality of apples produced by self-pollination, rendering them of little value except for cider or swine.

Fig. 4 of my illustrations shows a Baldwin apple crost by pollen of the yellow Bellflower, while No. 5 shows a large specimen of Baldwin self-crost, and No. 6 a small specimen of the same. The effects of cross-fertilization in increasing the size of fruits is an exceedingly interesting fact.

Prof. Munson, of the Maine Experiment Station, has found that the size of tomatoes may be quite dependent upon the amount of pollen they receive while in bloom. One receiving a large amount may be four times as large as one receiving only a small quantity. We have, doubtless, all observed that a pea-pod that has set only one or two peas is greatly dwarft in size. What the pod is to the pea, the skin and pulp are to the apple-seeds. Facts prove, beyond the shadow of a doubt, that the cross-pollination of apples does affect not only the seed but the fruit also.

Prof. Waite gave considerable attention to the quince, but did not find so great a difference, and the fruits were as perfect and as abundant where self-fertilized as when crost. This is not as we should have expected, but we should be satisfied with the truth.

Prof. F. A. Waugh, of the Vermont Agricultural College, has been at work along this same line in a careful study of the numerous varieties of native and Japanese plums, and has found them, almost without exception, self-sterile here in the North.

In concluding his paper Mr. Waite says: "The number of insect visitors in any orchard determines to a great extent the amount of cross-pollination carried on. The pollen of the pear and apple is not produced in sufficient quantity, nor is it of the right consistency, to be carried by the wind; and the pollination of these trees is, therefore, dependent upon the activity of insects......If there is no apiary in the neighborhood, therefore, each large orchardist should keep a number of colonies of bees. Honey-bees and other members of the bee-family are the best workers in cross-pollination."

His advice to fruit-growers is to plant not more than three or four rows of any one variety together, unless the variety is known to be perfectly self-fertile, and be sure there are enough bees in the neighborhood, or within two or three miles, to visit properly the blossoms, and, when possible, to favor the bees by planting in a sheltered situation, or by planting windbreaks.

I must confess a keen enjoyment in again taking up the study of this subject under the light that recent scientific investigation by careful, painstaking, and unprejudiced observers has thrown upon it. We can now see why there was such a variety of opinion on this subject in the symposium referred to. We find that, while some varieties of both apples and pears are, under favorable conditions, capable of self-fertilization, yet a majority of the various varieties of apples and pears are either wholly dependent upon insect visits, or greatly benefited by them, in setting and maturing their fruits.

Should any wish to study this subject further, I would refer them to a paper by M. B. Waite, Assistant Pathologist, Division of Vegetable Physiology and Pathology, in the Yearbook of the Department of Agriculture for 1898, which I wish might be placed in the hands of every fruit-grower of the land. Prof. L. R. Jones, of the Vermont Agricultural College, informs me that Mr. Waite is quite conservative, and does not overestimate the value of bees in this connection.—Gleanings in Bee-Culture.

Addison Co., Vt.

Something About Honey-Extractors and Their Use.

BY C. P. DADANT.

As I intend to buy an extractor this year, I should like to get some information in relation to it from a user's standpoint, and not from the manufacturer.

Would a machine for a 12-inch depth frame take (if a two-frame extractor) four of the six-inch extracting-frames? I may wish, at times, to extract from the brood-frames, which are standard length, and 11⅜ inches deep.—J. P. Coburn.

Answer.—Any extractor made for large frames, with a basket 13 to 13¾ by 20, will take one of the large frames in question, or two of the shallow extracting-frames. So a two-frame extractor will take four shallow frames with side-bar 6 inches deep, such as we use.

We have always used a four-frame extractor, and those that were made for us years ago were of the Excelsior pattern, then manufactured by Mr. Newman, in Chicago. These extractors took four large Quinby frames, or eight small ones, and are still in use by us. We have five of them, and altho some of them have been very much battered by rough usage and transporting in wagons with honey-barrels from one apiary to another, they are still fit to be used, tho some of them have been repaired a number of times.

They were made without any center rod, so the frames can be turned over without lifting them out, and we find that such extractors are about as convenient as the reversible, which are necessarily much more cumbersome since the frame baskets in them have to swing around in the can. The task of turning the frames over when they do not have to be lifted out, makes but little additional work, and one is able to put twice as many frames in the same space. The four-frame reversible extractors are quite expensive and cumbersome.

Economy in extractors is a mistaken saving. A farmer might as well economize in buying a plow, or a carpenter in buying a saw, or a gardener in buying a spade. The original cost of these implements is nothing compared to the amount of work they do, and an apiarist with but two colonies of bees can easily pay for his extractor in one or two years by using it judiciously.

So, in buying extractors, I would urge always to buy the very best regardless of cost. If a lubricant is needed when using it, use honey only, but be sure and wash it off in hot water as soon as the work is over. Tin will remain bright under a coat of honey, but wherever the tin is worn the iron under it will color the honey and will rust if allowed to stand any length of time. So we always wash our extractors with hot water as soon as the crop has been taken off, and dry them thoroly at once.

The extractors that are now made are of much better quality than those made previously, strength being now more considered. The apiarist may save much strain to his machine by using combs of fairly even weight in the opposite baskets of the machine. This is the principal requirement, as the overbalancing caused by a greater weight on one side will be likely to warp the baskets or the frame.

There is no need of fast turning, especially in warm weather. Ascertain the speed necessary to throw out the nectar, and regulate the motion in accordance with this. A great speed only serves to break out the comb, or to crush it against the screen. Hancock Co., Ill.

Cellar-Wintering of Bees—Something About It.

BY G. M. DOOLITTLE.

A CORRESPONDENT writes that he is wintering his bees in the cellar for the first time this winter, and that upon going into the cellar lately he found one of the colonies roaring to quite an extent. He wishes to know what caused the roaring, and also wishes me to tell thru the columns of the American Bee Journal how a person can know when bees are wintering well in a cellar.

Answering the above as best I may, I will say that it is not an uncommon thing to find a single colony somewhat noisy upon going into the cellar, but when one is so found it is well to mark it in some way, that it may be watcht or lookt after the next time you go in. Very probably the next time the cellar is visited he will find this colony as quiet as any, for without more light on the subject, I should expect that this colony was in the act of taking honey into the cluster.

Where bees are wintered out-of-doors they generally "break cluster" with every warm spell that comes, and go over to the outside combs of sealed honey, uncap the same, and carry quite a store of it over into the center combs surrounding the cluster, so that they may have plenty of unsealed honey near at hand to carry them over to another warm spell. This, in a measure, insures their safety from starvation should the cold hold out longer than the sealed stores immediately above them last, as they have this much in addition. In thus carrying honey the whole colony is aroused, and a merry hum is given off, the same as with colonies when being fed at any time, or when procuring nectar from the field, for, so far as I have observed, bees never move nectar from flowers, or feed on honey from feeders or the combs, but that this hum of happiness is heard.

Now and then a colony will carry honey into the cluster as above while in the cellar, doing this as often as the unsealed honey is consumed surrounding them, which would account for the roaring spoken of by the correspondent; but the majority of colonies wintered in the cellar do not usually thus carry honey. If this particular colony keeps up this roaring I should try (if it were possible to do it without disturbing other colonies) giving such colony more or less ventilation to its own hive, until I struck the right amount, when it would remain as quiet as the others.

As to the part about bees wintering well, it would be a hard matter to tell exactly about it; but that I may do the best I can, I have just been into my cellar and will tell the reader as near as I can what I did and how I found things, and I think the bees are wintering fairly well this winter.

My bee-cellar is *perfectly* dark, in fact, so dark that I have many times taken a piece of perfectly white paper in with me, a foot or more square, and after having staid so long that my eyes have become accustomed to the darkness, all they would were I to remain there 24 hours, I have taken this piece of paper and past it backward and forward before my eyes without being able to discern the least sign or shadow of it.

There are four doors leading to the cellar, all of which are shut behind me in entering one after the other, so that no disturbing ray of light or breath of cold air shall disturb the bees from their quiet slumbers, special pains being always taken that all of my movements shall be of the most quiet kind, so that no jar or loud noise shall ever greet them. Being in total darkness I stand still and listen, for in this listening we can tell more about how the bees are wintering than by any other one thing after we have struck a light. The sound I hear is like a low, faint murmur of a slight breeze in some far off tree-tops, the rumble of some train of cars miles away, or the lashing of the waves on some distant shore, which is very nearly indescribable. Occasionally this semi-stillness is broken by a bee flying out on the cellar-bottom, or some single bee giving off a "zeep, zeep," as we often hear while holding the ear close to a hive in midsummer, but the same being very much fainter and more suppress.

I have about 75 colonies in this cellar, and the above describes as well as I can all that could be heard for a time sufficient to count slowly 500, I standing perfectly still all of this time before striking any light. Should there be any mice or rats present in the cellar, their presence is more quickly detected in this way than with a light, for they are very apt to make a noise by running about among the hives, which is easily heard in the deep darkness and stillness which reigns.

If the correspondent has only a few colonies of bees in the cellar, he may be obliged to place his ear near the hives to hear their low hum, and stay half an hour or so to hear a bee fly out; while if there are 200 to 300 colonies in the cellar the hum will be louder, and bees be flying nearly all the while, if near spring, which it will be before this is publisht.

If the bees are in the house-cellar it will be necessary to get up before the family in the morning, so that all may be still, in order to test this part of the matter.

After listening till satisfied, I strike a match and light a paraffin or spermaceti candle, thus not annoying the bees to nearly so great an extent as a lamp or lantern, while with it I can secure a much more satisfactory result. These candles can be procured at almost any country store, and I always advise their use in bee-cellars.

Having the light I carefully proceed along the rows of hives, looking closely for any traces of mice, for so far I have not succeeded in fully keeping mice from any bee-cellar. The presence of mice is detected by finding heads and abdomens of bees with the thorax gone, the same having been eaten, and by fragments of comb under the hives. If these are found buy a common choker trap, if you do not have any, and for bait use squash or pumpkin seeds, as these have an attraction for the mice beyond anything else ever used in or on a trap.

Having the mouse question settled, I next look at the bees at the bottom of the combs. Where wintering well only rows of abdomens appear, the points all standing outward, and nearly or quite motionless, unless you have been awkward in your movements so as to arouse them needlessly. Be careful not to hold the light too near, or breathe on the bees, as they are easily aroused by either of these. I sometimes raise the covers to a few hives and look in at the top of the frames, but as this can rarely be done without disturbing the bees, it is better not to do it unless some positive need requires it.

As I am about taking my departure I look at the temperature, which to-day (Feb. 28) was 46 degrees, which is as near right as any unless such should be 45 degrees. But should it go down to 42 degrees, or rise to 50 degrees, the bees would show but little difference, except that the murmur heard would be somewhat louder.

At the near approach of the time for putting bees out, the hum will become louder, they will not remain so quiet under the light from the candle, and more will go to the cellar-bottom, even when wintering in good shape.

Onondaga Co., N. Y.

Color Cards for Grading Honey, Etc.

BY WM. MUTH-RASMUSSEN.

MR. E. E. HASTY (page 38) does not seem to "catch on" to the object of color cards for classifying honey. Comb honey is clast as white, light amber, amber and dark. By these designations it is quoted in the various markets. The classification applies only to the color of the honey, and has nothing to do with the whiteness, greasiness, evenness, fullness, or any other external feature of he comb.

When I am grading and packing my honey, it is of importance to me that my grade marks shall be correct and acceptable in any market where the honey may go. If part of my honey is called light amber in one market, and amber in another; and another part of it is called amber and dark in different markets, I never know how I stand, or what I may expect to get for my honey crop. Hence, the necessity of having a definite standard to go by.

If we could always be sure of the source of the honey, we might designate it as White Clover, Basswood, Alfalfa, Sage, Buckwheat, etc.; but this is not always practicable, particularly with the colored honeys. The classification should be uniform for the whole country, so that a case markt "Amber" by me will be accepted and paid for as amber, whether it is sold in San Francisco, Chicago, or New York, and not knockt down as "Dark" after it leaves my hands and control. If customers prefer dark honey in a white comb, the correct grading and classification is just what will enable them to get what they want with the least trouble.

WHAT MAKES A LAYING WORKER ?

To this question (page 39) Dr. Miller gives his usual answer. Allow me to advance a theory in this regard. The nurse-bees are governed in their activity partly by the temperature and partly by the amount of nectar and pollen brought in by the field-workers. It has been said that the queen is furnisht with a special, prepared food, which stimulates her reproductive organs and causes her to lay. According as this food is furnisht in greater or lesser quantities, the egg-laying is increast or diminisht. When this queen-food is entirely withheld, the egg-laying ceases for the time being.

I believe that all worker-bees are capable of laying at some time of their existence, if not thru the whole of their adult life. Under normal conditions the queen-food is never offered to worker-bees, but when a colony is queenless and anxious for brood, may not the nurse-bees select such workers as in their judgment are most capable of egg-laying and furnish them with queen-food? and may not this queen-food have the same stimulative effect on the dormant and defective organs of these workers as it has on the queen? "I don't know," but I think so.

REMINISCENCES—HONEY-EXTRACTORS.

In Gleanings in Bee-Culture is a description of the Peabody honey-extractor—the first extractor made and sold in this country—together with illustrations of the machine and its inventor. How this brings up memories of olden times, when Wagner, Langstroth, Quinby, Grimm, Novice, Baldridge, Heddon, Argo, and many others, more or less unknown to the present generation, used to write for the American Bee Journal.

In the spring of 1871 I bought my first extractor of Mr. Peabody, and, when sending it, he wrote: "I have just received an order for another extractor from California." As far as I am aware, I was the first bee-keeper on the Pacific Coast to own and operate a honey-extractor. If any one preceded me, let him arise and claim the priority.

Previous to that time all liquid honey was here produced by the sun-extractor, or, as we called it, the "sun-strainer." The first sun-strainer I workt with had a capacity of a ton on a hot day. That was in Southern California.

Inyo Co., Calif.

NO. 3.—COMB HONEY PRODUCTION.

Spreading Brood—Encouraging Breeding—Strengthening Weak Colonies.

BY R. C. AIKIN.

THE preceding article closed with my method of spreading brood by putting the combs back end foremost, *i. e.*, putting the end of the comb having brood in it to the back of the hive, and the honey end to the front. The same thing may be practiced by simply turning the entire brood-chamber half around, but of course this can only be done with hives having loose bottoms and the entrance in the bottom-board.

To thus change the position of the brood is a splendid way to get the combs full of brood from end to end. It is the nature of the bees to cluster near the entrance, *generally* right at the entrance, and this results in the brood-nest being close to the front of the hive. This rule will be more nearly universal in sunny climes, and where the hives face the sun. To face them north would cause very many colonies to start breeding at the back, but simply because there they find the most heat and the driest part of the hive. Also to face east or west will cause many to start at the side, but in this case the brood will usually be nearest the entrance end.

After the starting of the brood-nest at the very beginning, the way it is spread thereafter depends upon the location of the entrance, in the early spring spreading both toward the entrance and toward the warm side; but once the colony becomes fairly strong, then mainly toward the entrance. If the first breeding of the season has been about the center of the front end, they will spread crosswise of the combs, and have brood in almost, if not quite, every comb, while there is a lot of the back ends free of brood.

Following these ideas I reverse the order when a colony has fairly started, so as to have the equivalent of 1½ to 3 combs of brood, even with less than that if the weather is warm and the bees seem able to guard the entrance so far from the breeding cluster. This plan gets the combs filled with brood from end to end, and while we get no less brood—probably more—it is in *fewer combs*. It surely encourages breeding, for the bees will stretch the cluster to the front to guard the exit, thus taking all that can be spared from the brood, and the queen, finding bees all over the combs, and the honey being cleared from the part of the comb near to the front, occupies with eggs. It is nice when I want to contract a brood-nest by putting in a dummy, to find 6 or 8 combs of brood *in 6 or 8* and not in 10 combs.

I also make use of the same idea to stimulate breeding—I reverse combs having the back ends full of honey and the fronts empty, when the bees uncap and move the honey back. If a colony is made to handle honey, and have much in their sacs, they feed the queen and brood well, and we gain much the same effect on breeding as if they gathered from the fields.

The effect of these manipulations will be by far more noticeable if there be no gathering from the fields. If nectar is being brought in of course we lose the effect of the bees handling their old stores, but shifting the brood has its effect under either condition, and is well worth the trouble to accomplish it. I got this idea several years ago, and have largely practiced it ever since. If a colony had the fronts of all their combs filled with brood, and the backs of all, or nearly all, empty, when the honey-flow starts the first stored goes right to those back ends; but just turn the hive at that time and get the brood to the back, and they will store in sections rather than put honey so close to the entrance, and between it and the brood.

To have empty comb next the entrance, and the brood back of it helps quite materially to lessen swarming. I know from experience that *dry* comb placed below and forward of the brood *just at the beginning* of the flow, will very largely control swarming when running for extracted honey. I have practiced it. Of course, this is not practical in producing comb honey, but in a comb-honey colony, if there must be empty comb in the brood-chamber when the honey-flow starts, have it as much as possible between the brood and the entrance. Thus arranged, much of the honey that would have been put in this comb had it been back, will be put above in sections.

Referring again to those colonies that failed to get a good start in early spring, and so are not able to get to proper strength when the flow begins, it is well to help such just as soon as others are strong enough to spare help for them. Remember that the weak colony is not in need of brood, it is *bees* they want. Give them bees and the queen will very soon get the brood. The queen has simply been held back because she had not workers enough to care for the brood, and when she has the bees, is ready to supply the eggs. I suspect that many a good queen has been condemned (blindly) because she did not have a good, strong colony when she was not at fault at all.

I say give the weak colony *bees*. My method of giving the bees varies according to circumstances. Usually I find and give a comb, from some strong colony, that has a goodly patch of brood from which the bees are *just emerging*. There should be bees enough emerge in a short time after the comb is given to care for the rest of the brood in that very comb and keep it from chilling, for the trouble with the colony is that it has not bees enough to care for what the queen can already supply. In two or three days the larger part of this ripe brood is hatcht, and the queen is supplying the vacated cells with eggs.

Another way is to bring bees from an out-yard, if such you have, bringing them in a wire cage and hiving them in just at dark or nearly so. They should be sprinkled with sweetened water, or in some way made to fill their sacs so that *all* go in *loaded*. If the weather is cool, hive them in both full of honey and so nearly chilled that they are glad to get in out of the cold, thus the danger of having the queen killed is reduced to the minimum. In putting strange bees into a colony always have both those added and those in the hive being added to, full of honey. Also try as much as possible to add young bees; old ones will be far more likely to kill the queen.

In localities where there is little or no honey brought in before the main harvest begins, it is a good plan to try to have each colony almost out of stores just the last few days—say a week to 10 days—before the flow begins. This keeps down the disposition to get the swarming-fever, and it is a great gain to have all come right up to the flow without thought of swarming.

If, however, there is a light flow for some days or weeks just prior to the main flow, then it is almost out of the question to have that "semi-starvation" condition, and so much harder to keep the swarming under control. The next best thing to the short-stores plan is to have adjustable brood-chambers so that they can have plenty of comb and ventilation, the surplus comb to be removed at once when honey is coming in freely. The difficulty with the extra-comb supply is to keep the queen from spreading her brood too much; not getting too much of it, but getting it *scattered* into too many combs. Larimer Co., Colo.

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Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Upon receipt of $1.00 for your Bee Journal subscription *a full year in advance*, we will mail you a Wood Binder free—if you will mention it.

The Wild Aster in North Carolina.

BY W. H. PRIDGEN.

In reading Mr. Schmidt's excellent description of wild aster, on page 785 (1899), I was struck with what I suppose is another peculiarity. Judging from the date of blooming in Ohio compared with that of this place, it begins North as soon as the right atmospheric conditions prevail, and keeps pace with those conditions southward, altho the young shoots for next year's growth are now forming around the old stems at the ground, and the further South the longer the season for development.

Here it begins to bloom in September and lasts until late in November, varying with the seasons. Last year our bees commenced storing rapidly Oct. 5, and continued a month before there was any evidence of a hold up, except from an occasional rainy day, the peculiar odor referred to being very pronounced.

When the flow from it is light, the honey sometimes has a strong or bitter flavor; at other times it is good, and especially if extracted and allowed to candy, which it does quickly.

It flourishes best on moderately dry alluvial soils, or good uplands that are cultivated every third year. The first year after the land is cultivated, it is thinly set, but the bunches present seem to attain their full growth, while the second year nearly everything else is crowded out, and while in bloom it presents a field of whiteness.

Where the conditions are the same, some plants bloom much earlier than others, and the time of blooming is hastened or delayed by the different conditions or kinds of soils, and the surroundings also, which supplies a prolonged, continuous flow from this source.

The cultivation of only a small plot of land two years in succession, altho it may be surrounded by or in a lot, treated as above described, throws matters out of joint, and the spot can be detected for several years, even if so treated only once, and afterwards remains unbroken for two years. This is true, altho one year's cultivation apparently destroys it root and branch.

It furnishes excellent early grazing for cattle or sheep, and is seldom seen on pasture lands. On roadsides and in fence-corners, waste-places, etc., where the land is neither broken nor continuous grazing allowed, it thrives for years, possibly from the same roots, but finally yields to the laws of nature, and gives place to something else.

Years ago I regretted to see frost during the time of its bloom, but I have learned that light frosts do not injure it in the least, and that heavy dews and cool nights are conducive to the best yields, while hot, dry or windy weather has the reverse effect.

Like other plants, it sometimes fails to yield nectar at all, but can usually be counted on for at least a little help. I think many of my colonies stored at least 50 pounds each from it the past season. Warren Co. N. C.

York's Honey Calendar for 1900 is a 16-page pamphlet especially gotten up to create a demand for honey among should-be consumers. The forepart was written by Dr. C. C. Miller, and is devoted to general information concerning honey. The latter part consists of recipes for use in cooking and as a medicine. It will be found to be a very effective helper in working up a home market for honey. We furnish them, postpaid, at these prices: A sample free; 25 copies for 30 cents; 50 for 50 cents; 100 for 90 cents; 250 for $2.00; 500 for $3.50. For 25 cents extra we will print your name and address on the front page, when ordering 100 or more copies at these prices.

"**The Hum of the Bees** in the Apple-Tree Bloom" is the name of the new bee-keeper's song—words by Hon. Eugene Secor and music by Dr. C. C. Miller. This is thought by some to be the best bee-song yet written by Mr. Secor and Dr. Miller. It is, indeed, a "hummer." We can furnish a single copy of it postpaid, for 10 cents, or 3 copies for 25 cents. Or, we will mail a half-dozen copies of it for sending us *one new* yearly subscription to the American Bee Journal at $1.00.

CONVENTION PROCEEDINGS

Report of the Colorado State Convention.

[Continued from page 150.]

Prof. Gillette then exhibited some sections. One contained a starter of foundation colored by lampblack, removed from the bees when they were just beginning to draw it out. It showed pellets of wax added by the bees. Another sample, containing lampblack foundation extending half-way down, showed that the bees transferred wax from the upper to the lower portion. Another sample containing a full sheet of black foundation showed that the bees had transferred wax from it to the corners of the wood. Samples of wax molded in test-tubes were also shown, showing the amount of wax in pound sections of honey under different conditons. (The exact weights were not obtained for these notes.)

SPRING MANAGEMENT OF BEES FOR COMB HONEY.

Mr. Lyon—Wintering comes first. I can carry them thru the spring better than thru the winter. They get weak in the spring. Shall we double weak colonies or not? I have done it only in one way, by taking one hive to another, and uniting. With me, it has been a terrible failure. In two or three weeks they don't seem to be stronger than before. There are other questions. Shall we change brood from the strong to the weak? Should we spread brood in Colorado, or turn the combs end for end? Should the hive-entrance be left open in winter as in summer?

Mr. Pease—I have sometimes tried spreading brood, and thought it beneficial, but can not say certainly.

H. Rauchfuss—I used to spread brood to double up, and to draw from the strong to give to the weak, but do so no more. It gets the brood-nest out of the proper shape. The *bees* make the colony, not the queen. You can give the queen of a weak colony three pounds of bees, and you will be surprised at the amount of brood you will get.

Mr. Martin—Instead of reversing one frame at a time, have you tried reversing the whole hive end for end?

H. Rauchfuss—I have thought of it, but never tried it.

Mr. Martin—I tried reversing in this way, as the bees consume the honey in the front end first. I think it was a success. It causes them to consume more honey and to convert the honey into brood.

Mr. Moon—I generally leave them alone. They increase faster than they can cover the brood. I give them plenty to eat, and consider that the most I can do to stimulate them. They work more after being fed; they seem to "rustle" for pollen better. The cold nights here make it unadvisable to spread brood.

J. B. Adams—I don't spread brood. I would reverse the whole hive, or all the frames. If part is reverst, the bees can't follow toward the front fast enough to cover it.

F. Rauchfuss—When do you feed, Mr. Moon?

Mr. Moon—I have an excellent location for early spring, but there is nothing between the early sources and alfalfa. I feed in that interval. That is right after fruit-bloom, about the middle of May to the 20th. I feed bran early so as to prevent the bees from becoming attacht to places where they will bother the neighbors.

J. B. Adams—Does it pay to feed a colony already well stockt?

Mr. Moon—Yes, I believe it pays to feed all I can get for stimulation.

Mr. Lyon—I believe in feeding. I wouldn't run a yard without feeding. Some try too early and make a failure. Unless these things are done at the right time, they should be let alone. Above all, use plenty of salt and carbolic acid. I never open a hive without an atomizer. My plan may not be a success with you, and yours not a perfect success with me. You are all against spreading brood. I take the other stand. If you spread brood with a handful of bees, you do more harm than good. I go to a strong colony, take a frame of brood with as many bees as possible, and make the weak colony strong, and after a certain time take another. It does not do harm if done judiciously at the right time. If the weather is cold, I avoid it; if right, then I commence spreading.

Mr. Harris—I took a comb from a strong to a weak colony last spring; and think otherwise I would have lost it. It made a booming colony. I think it well to equalize.

Mr. Lyon—Don't some of you try this and blame me. Be sure the strong colony is in the right condition. These things are very misleading when not given in a prepared essay.

H. Rauchfuss—I want the bees. I don't want the brood so much. The bees go back to the old stand. I think just changing the positions of the weak and the strong colony will accomplish this without spreading.

Mr. Martin—I think Mr. Lyon refers to brood very nearly ready to hatch, with very little unsealed, and in that case I know the plan is very successful.

Mr. Brock—I think the bees know more about the brood-nest than I do. When the weather is warm I assist the weak colonies with combs and brood.

Mr. Pease—Our hives are *not* in the natural shape.

Mr. Rhodes—I began early one season to feed the bees. I had no honey, but fed sugar. The result was I had them very strong at the flow. From seven or eight colonies I had a surplus of 1,000 pounds, while my neighbor with 100 colonies didn't have enough to spread over a buckwheat cake. I think it better to feed 21 days or a month before the flow, as the flow comes June 15.

DRUG TREATMENT OF FOUL BROOD.

J. B. Adams—Mr. Tracy did not have a case of foul brood when a foul-broody apiary within a quarter of a mile was robbed out entirely. He said he read in Gleanings in Bee-Culture about carbolic acid and salt. He would fill the cells along the top-bars by means of an oil-can, and headed off many a case of foul brood. Don't attempt to *cure* with this. I want to emphasize this. The proportion is one part of carbolic acid to 300 parts of water, with a heaping tablespoonful of salt to every pint of the mixture. Shake well before using. It is best to buy a 5-pound can of the acid.

Mr. Brock—I have used the mixture a number of years. I add 1½ teaspoonfuls of the acid to a gallon of water, with a handful of salt, and apply with a whisk-broom.

Mr. Martin—Was this treatment used the year the bees died off so?

H. Rauchfuss—Yes. I have tried it a good many different ways the last four years, tho not for foul brood.

F. Rauchfuss—The instance Mr. Adams quotes can also be paralleled when nothing of the kind was done. I kept bees a number of years near foul brood, but my bees did not get it.

Mr. Root—I tried carbolic acid in the proportion of 1 to 500 in pure cultures, without killing the germs. I tried a 1 to 300 solution, but that did not kill them. A 1 to 200 solution did. I sprayed all the hives without doing much good. Cheshire recommends feeding carbolic acid in syrup. Mr. Cowan recommends the same, in the proportion of 1 to 300. He thinks napthol beta a better disinfectant. I have not tried it.

FENCE SEPARATORS AND TALL SECTIONS.

H. Rauchfuss exhibited a Danzenbaker super, with fences, in the condition in which it was after the sections of honey were removed, showing a number of brace-comb attachments to the fences. This super was the second one put on a hive. The first one that came off was filled with ordinary sections and separators, and had no brace-combs attacht to the separators. The brace-combs in the Danzenbaker super were not due to crowding. The outside sections were not finisht when it was removed, and another empty super was on top of it while it was being finisht, so the bees had plenty of room. I used 10 of the latest Danzenbaker supers last season, and aimed to put them on the best colonies I had. All had more or less attachment to the fences. The spaces between the slats would be filled up in spots and then attach to the combs. Many of the combs themselves were built out on the cleats, beyond the edges of the sections. It is claimed that this system results in better filling of the sections. I produced 350 cases altogether, and could see no difference in filling between the plain and the ordinary kind.

Mr. Harris—I tried the fences in five or six 10-frame supers, and did not find a brace-comb on them, tho I did on others.

Pres. Aikin—I didn't get to use any this season.

Mr. Porter—I have been too busy to make experiments.

Mr. Harris—The spaces between the slats were not wide enough at first.

F. Rauchfuss—I have had no actual experience myself, but expected to get reports in handling supplies. Owing to the shortness of the regular stock, some 4¼x4¼x1½ sections were used by a few. Mrs. Booth likes them, but doesn't think of adopting them. Carl Moon thinks the same. The others have not exprest themselves. The main objection is they are too expensive. Even admitted that they would be cheaper, honey is sold by weight, and we have to take a correspondingly greater number of sections to make it out. There is more comb surface, therefore more foundation required. Perhaps honey would really cost a trifle more to produce in plain sections. One reason why they were not tried more here is that many have supplies left over from the previous season.

Mr. Root—It is hardly fair to compare the tall plain sections with the 4¼x1⅞. Under like conditions, if the separators are exactly the same as those used with the 4¼x1⅞ sections, that is, if plain sections are used with cleated plain separators, they will not be filled any better, because it makes no difference whether room is taken by a cleat on the separator or by the same amount of wood in the section. If 4¼ full bee-way sections, with the corners cut down, are used for comparison instead of the scallopt sections, then the conditions are exactly the same. Some think more honey is produced without separators. I don't know. But the fences are the next thing to having no separators. As to the attachment of the combs to the fences, we have had only one other such report. Attachment to plain separators also happens, but is thought rare. If any bees are inclined to attach to plain separators, those same bees might be inclined to attach to the fences. I have seen thousands of pounds of honey in plain sections in New York, and saw no burr-combs attacht. But the 4x5 sections can hardly be compared with the 4¼ square section. A plain section equally as well filled as an old-style section will appear to be better filled. I recently secured the statement of four leading commission-houses in regard to plain sections. They all preferred the plain sections because they appeared fuller.

F. Rauchfuss—In Mesa County 700 of these plain-section supers were sold last year.

J. B. Adams—I tried one super of the 4x5 sections. They were not fastened to the fences.

Mr. Root—A good many have the impression that the comb is even with the wood in plain sections, but it is not so. The wood does project a little. A super with fences on a weak colony is not filled so soon as one with tight separators. Where the colonies are strong we have had a good many reports that the sections are entered sooner. Other reports have been just the reverse. In regard to the fastening of the combs to the cleats, the comb is more apt to be fastened to a narrow cleat.

Pres. Aikin—My opinion was once askt about the thickness of the cleats. I said 2/12 of an inch was too thick. This is the confirmation. Bees sometimes work out to the cleats, and then round the comb out. For years I have been dissatisfied with the scallopt section. I have used sections with bee-ways clear across. The combs were always nicely finisht. I would prefer the plain section scallopt out a little. I do feel favorably toward the fences. I was experimenting with fences before Mr. Root took hold of them. When he took hold then I quit. I thought I would let others do the experimenting.

Mr. Root—The New York bee-keepers claim that the corners of a comb are better filled out in a notcht section. In a scallopt section the combs are rounding at the corners.

Mr. Martin—Would it justify the extra amount of labor to use the fences?

Mr. Root—I have seen fences that had been in use nine years at Mr. Morton's. All they need is a little scraping across the cleats and along the slats.

F. Rauchfuss—Mr. Root, have you any reports of the Hyde-Scholl separator?

Mr. Root—We have had one report. If made of wood it is not durable. Even if it is of tin it is a flimsy affair.

[Continued next week.]

Please send us Names of Bee-Keepers who do not now get the American Bee Journal, and we will send them sample copies. Then you can very likely afterward get their subscriptions, for which work we offer valuable premiums in nearly every number of this journal. You can aid much by sending in the names and addresses when writing us on other matters.

The Premiums offered on page 173 are well worth working for. Look at them.

BEEDOM BOILED DOWN

The Amount of comb occupied with brood just before the flow commences is the right number of frames to have in the brood-chamber during the flow.—Doolittle, in Gleanings in Bee-Culture.

Get Colonies Strong for the Main Harvest is the rule with L. Stachelhausen. His experience, as well as that of many others, is that while a colony of 20,000 bees may store no surplus, one of 30,000 may store 20 pounds, and one of 60,000 may store not only 40 pounds, but 120 or more. But he wants as few bees as possible at a time when bees are consumers only.—Bee-Keepers' Review.

Introduction of Queens.—M. Giraud-Pabou reports in L'Apiculteur that he introduces queens by rolling the queen in honey, then placing her between two combs well covered with bees. The colony must be queenless from one to nine days. Of 80 laying queens thus introduced, only three were refused. Virgins are introduced in the same way, only the colony must be queenless at least two days. Of 68 virgins thus introduced, 55 were accepted. This method of introduction was much in vogue years ago, but was not always considered successful.

Cold With and Without Wind.—In Gleanings in Bee-Culture the point is emphasized that 10 degrees above zero may be worse than 20 degrees below without wind. Dr. Miller thinks Marengo, with its all-day-long prairie winds, is a worse place for wintering than many places away North. Editor Root says:

"If this is true, it behooves us to put up windbreaks in the shape of high board fences or evergreen trees. It will be remembered that the winter losses out-doors at Medina have been very low—scarcely ever exceeding 5 percent, and usually about 2 percent. Our apiary is shielded on the north and west sides by a solid phalanx of evergreen trees from 20 to 30 feet high; and on the east and south by brick buildings and lumber-piles. The result is, that on the days of our highest winds there is comparative quiet in the apiary. True it is, there is a great roar of the wind from without, but there are only slight air currents within. A windbreak of evergreens does not cost much, and is perpetual after it is once put down. One consisting of a barn and out-buildings, with an occasional stretch of a board fence on the north and west sides, would be equally effective; and I am satisfied that the slight expense of maintaining the fence or trees would be made up in a few years' time, ten times over, in the saving of many colonies of bees, and preventing others from getting so weak that they are practically useless for honey-production."

Cameras for Taking Half-Tone Pictures.—At first blush, that hardly seems to be a subject germane to bee-keeping, but really it has come to be decidedly so. Pictures add no little to the pleasure of reading bee-papers, and sometimes a glance at an illustration gives one a better idea of some implement than a whole column of reading-matter. A late number of the Bee-Keepers' Review gave rather a discouraging view to those who had kodaks, which are so common, saying their pictures are passably sharp, but that is all, and to get really fine work one must have an adjustable focus. The following from Editor Root, of Gleanings in Bee-Culture, is reassuring to the kodak fiend:

"Bro. Hutchinson seems to have gotten a wrong impression of a kodak. Only a few of the cameras bearing that name are of the fixt focus type; but their pictures are very sharp—much better than 'passably sharp.' But those of the adjustable-focus type of the *same grade*, and with the same stop, give no better results. There are high-grade kodaks of both kinds, and either gives the same sharpness of detail. Why, the smallest pocket size of fixt focus with a picture 1½x2 will make a picture so sharp that it can be enlarged to 10x12 inches. The sharpness of detail is dependent, not upon the fixt or adjustable focus, but upon the *price paid*. All instruments bearing the name 'Kodak' are of the highest grade."

AMERICAN BEE JOURNAL.
ESTABLISHT IN 1861 OLDEST BEE-PAPER IN AMERICA
DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS

PUBLISHT WEEKLY BY
GEORGE W. YORK & COMPANY,
118 Michigan Street, Chicago, Ill.

[Entered at the Post-Office at Chicago as Second-Class Mail-Matter.]

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The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "Dec00" on your label shows that it is paid to the end of December, 1900.

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Advertising Rates will be given upon application.

VOL. 40. MARCH 15, 1900. NO. 11.

EDITORIAL COMMENTS

NOTE—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

Improvement in Bees is discust in the Bee-Keepers' Review by L. A. Aspinwall, in a way that shows familiarity with the subject. For six years he has been laboring for improvement, and hardly realized what improvement he had made until an absconding swarm of Italians came to him and gave him a chance for comparison. He supersedes the queens of all vindictive colonies; of those that build much brace-comb; also queens that are unprolific. Selections are made from the best honey-gathering colonies; and size, not only of workers, but also of drones and queens is by no means neglected. In working for size, the drones, rather than the workers, are considered; and from one queen which produces extra-large drones he has taken daughters to re-queen nearly a fourth of his apiary. This gives a better chance for the fertilization of young queens.

Sweet Clover for Forage and Honey.—Prof. Thos. Shaw, one of the leading writers and experts on agricultural topics, both in Canada and the United States, has recently written a new book on "Forage Crops Other than Grass," in which he has this to say about sweet clover:

Sweet clover (*Melilotus alba*) is so named, doubtless, from the fragrance of the odor which characterizes it. It is also frequently called Bokhara clover. The two species, *Melilotus alba* and yellow sweet clover (*Melilotus officinalis*) are closely allied, but the blossom of the former is light-colored, while that of the latter is yellow.

Sweet clover is a strong, vigorous-growing biennial. It is brancht and upright in its habit of growth. It is one of the most hardy plants of the clover family. When once firmly rooted it has great power to withstand drouth and heat, and it can also endure low temperature. Being a ravenous feeder it is able to maintain itself in soils too poor to sustain other species of the clover family. The writer has succeeded in growing sweet clover on a vacant lot in St. Paul, from which several feet of the surface soil has been removed, insomuch that only sand and gravel remained. Moverover, it is a legume, and one which has much power to renovate soils. A plant, therefore, which is possest of such powers should not be lookt upon as worthless. That it is so is the popular idea. It has even been lookt upon as a weed, and some countries and States have included sweet clover in the list of proscribed noxious weeds.

But sweet clover has been grown to some extent to provide hay for live stock in the cured form, and also to provide pasture. And it has been grown to furnish food for bees when it is in bloom. It has been grown for all these uses in the South, more particularly in the States of the lower Mississippi basin. For providing hay it is not very suitable, for the reasons, first, that it is woody and coarse in character; second, that it is difficult to cure; and, third, that it is not much relisht by live stock. They do not care to eat it when they can get a sufficiency of other food, as corn, sorghum, or other clovers. As a food for bees it is excellent; and if a part of the plot or field is cut before coming into bloom, the season of bloom will be much prolonged. It is also sown along the sloping embankments and the sides of railway cuttings. The object sought is to prevent these from washing, and it has proved highly serviceable for the purpose.

Sweet clover has not been much grown for pasture, but for such a use it may yet prove to be of value. When sheep have access to a variety of grasses they will probably pass sweet clover by, even when it is young and tender. But if confined to such a pasture when it first begins to grow, they would soon begin to crop it down. To force animals thus to eat food under constraint is not good for them; but thus it is that in some instances sheep have to be confined on rape, and forced to eat it thru sheer hunger. In a short time they become very fond of the rape. So likewise they may be taught to eat sweet clover. Of course, where other and better kinds of clover will grow, it would not be wise to trouble with sweet clover. But in the semi-arid belt east of the Rocky Mountains, and in the poor sandy soils of the South, it may yet be found that an important mission awaits this plant; first, in growing a crop that will renovate the soil when plowed under, and increase its power to hold moisture; second, in furnishing food for bees; and, third, in providing pasture. Hay should be sought from it the first year rather than the second.

Sweet clover can be sown only in the spring or summer in very cold latitudes; but in those that are mild it can be sown in the autumn or spring, preferably the former. Usually not less than 15 pounds of the seed is sown to the acre. In the South it is frequently sown on the surface of stubble land after the crop has been harvested; and when thus sown it is simply covered by the harrow. If sweet clover is kept from blossoming the land will soon be freed from it when it is so desired.

We are glad to be able to present the foregoing concerning the varied values of sweet clover from so high an authority as Prof. Shaw. It will pay to show it to those who are foolishly against sweet clover.

Fool Stories About Bees and Honey.—Some time ago one of our subscribers sent us the following clipping from the Minneapolis Journal, desiring our opinion concerning it:

CORRUPTING THE BEES—TAUGHT TO SWINDLE.

ONCE HAVING MADE GLUCOSE HONEY, THEY ARE TOO LAZY TO HUNT FLOWERS.

According to information which has reacht State Dairy and Food Commissioner Bowler, the dear little busy bees, belonging to some of the bee-sharps of the country, have been made the unwitting means of perpetrating a horrible fraud upon honey-lovers. Of late years it appears that economical bee-keepers have discovered a way to keep the bees from taking their annual winter vacation. The bees are provided with warm rooms in which maple syrup and cane-sugar are spread out over unleavened corn-bread. The innocent bees feed upon this saccharine combination and proceed to produce glucose honey, tho put up in regular combs. The deception is complete, but the honey is about as unlike the real article made from flowers as a wholly artificial imitation. Honey produced in this way is very cheap as to cost of production, when it is considered that the bees would otherwise be idle. The price of honey is also higher in the winter than at other times.

Major Bowler said yesterday that he had decided that such honey was adulterated honey. He says, however, that he will not prosecute the bees, considering them as innocent accomplices in a fraud which must be charged to their owners.

There will not be any difficulty in making prosecutions so far as the law is concerned, for it defines pure honey to be made by bees from plants.

The bees consider this manner of making honey such a snap that once they have been thoroly initiated they are of no more use for honest toil in the fields. Their extractors lose their cunning, and, remembering the luxurious affluence of winter, they refuse to buzz over the countryside and take infinite pains to get a drop of honey.

The above is a fair sample of what may be evolved out of the brain of a wild-eyed reporter who is hard up for something to fill space. And there will be plenty of people to believe that a colony of bees can be got to spend the whole winter making glucose honey out of maple and cane sugar, and that fortunes can be made thereby. What next will be started, and to what extent a strain may be put upon the gullibility of the public, it is hard to conjecture. Perhaps something like the following imaginative tale may be expected to go the rounds:

A NOVEL INDUSTRY.

THE BEES' OCCUPATION AT AN END—A NEW FORCE IN NATURE.

In the parish of Alfalita, on the boundary line between Georgia and Mississippi, just north of the lovely lake of Atchaminoka, is an exquisite little valley, so hemmed in on all sides by gently sloping hills that no hint of its existence is seen till one comes suddenly upon it. In the center of this beautiful valley rises an imposing structure, or rather a series of imposing structures, with a grand central tower. What transpires within these walls has been for generations a profound mystery.

From time to time great hogsheads have been brought in the dead of night on the little spur of railroad that shoots out from the Great Southern and Inland railroad system, and from time to time also such hogsheads have been seen loading up on the cars run alongside one of the outside walls, but well-armed guards have carefully prevented too close scrutiny of the incoming or outgoing vessels. The employees, whatever may have been their occupation, were never seen outside the walls. At intervals some negro was known to go inside, but what became of him afterwards, whether buried inside at the end of his days, or spirited to some other region, was never known.

Ambitious reporters had tried, but tried in vain, to obtain entrance. At length one of our most skillful investigators, thanks to features not altogether unlike those of an African, and to a proper application of burnt cork, made successful application for employment. How he safely escaped, if safely it could be called, and how he managed to get entire information as to all points, does not come within the scope of the chronicles. The facts, in as few words as possible, are sufficient.

The contents of the hogsheads that make their nocturnal entry are nothing more nor less than the crude sap of sugar-cane gathered from thousands of acres of growing cane. Pneumatic pumps at various points in the outer circuit of buildings send a constant stream of the raw sap toward the central building. In the very midst of this, to which none but a select few of the most trusted employees are admitted, stands a creation unlike anything to be seen elsewhere in the whole wide world. And yet it is very like what may be seen in any bee-hive, for it is simply an immense bee, apparently endowed with every attribute of life. Its wings are constantly in motion with a gentle fanning action; at intervals one after another of its six feet are lifted and set down again, and the head sways alternately from one side to another, as if investigating its surroundings. In color, form, proportion, there is really nothing to distinguish it from one of a thousand of the busy denizens of the hive, the only point of difference being its size. One of its dimensions being given, it is easy for one familiar with the form of a bee to estimate the others. From the extreme limit of its antennæ to the tip of its tail is 117 feet!

Not less remarkable, indeed much more remarkable, is the inner construction. All that is found inside a honey-bee is here found, only on a colossal scale. The various streams of the cane sap converge into one huge stream which enters the mouth of the bee, or rather enters a large aperture in its tongue, and out of another aperture nearer the base of the tongue emerges the stream after having ramified thru all the minute vessels of the great body. The difference is that what made its entrance as crude sap makes its exit as an excellent quality of the finest liquid honey. One would naturally suppose that some cunningly devised chemicals had produced the remarkable change. Nothing of the kind. The entire establishment is innocent of drugs of all kinds.

A force in Nature is at work that has elsewhere escaped observation. It is well known to scientists that a chemical change may take place in some cases because of the presence of another material, this latter material remaining itself unchanged. In the present case there seems to be a change made not in any chemical way, but by some occult power by which the *form* of the huge bee so affects the lifeless liquid that the entering sap emerges as nectar fit for the gods.

In vain may scientists say no such force is impossible; there is the crude sap, there is the verisimilitude of a gigantic bee, and there is the honey. Facts are stubborn things.

In the light of what is here divulged, it need no longer be a matter of wonder why liquid honey, or that which in trade circles is called the extract of honey, is always sold at a lower price than the genuine article made by the bees and stored in honeycombs.

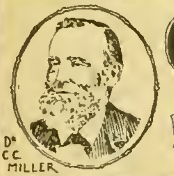
And so we might go on "spinning yarns" about something that doesn't exist, similar to those ground out by the average newspaper reporter. No doubt if the foregoing piece of apiarian fiction appeared in the Chicago Record the majority of its readers would not only half believe it, but would soon tell it as a fact, and it would be a difficult matter to convince many of them that it was all a rattle-brain story.

But such are newspaper life and stories, and all bee-keepers can do is to keep on trying to spread and uphold the truth regardless of what others do or say.

Tin and Wood Packages for Honey were discust in a lively manner at the Wisconsin convention, the discussion following our paper on "Honey—From the Hive to the Table," which will appear in these columns later. The points in the discussion are well summed up by W. Z. Hutchinson, in the Country Gentleman, as follows:

"For retailing honey, selling it to grocers, the jacketed tin cans, two in a case, each can holding 60 pounds, possess decided advantages. They seldom leak, unless carelessly punctured by a nail when nailing on the jacket. If a can does leak, or meet with an accident, the loss is slight compared to what occurs when a barrel 'loses its head.' There is no loss from 'soakage,' as is sometimes the case with wooden packages. Honey in a can is easily liquefied. The greatest objection to tin cans is their cost. A barrel holding 350 pounds of honey can be bought for 80 cents. The same amount of honey put in tin cans would call for an expenditure of about $2.25 for packages. In shipping a large crop, this is a big item.

"Barrels are more easily handled, as they can be rolled, while cans must be lifted and carried, or else shoved. Manufacturers, and others using honey in large quantities, usually prefer it in barrels, as they have arrangements for handling it to advantage in such packages, and they wish to avoid the expense of tin packages. Care is needed in securing the right kind of barrels—that they are made by a man who understands his business. When it was proposed to wax the barrels, the reply was: 'Wax your cooper instead of the barrels.' However, the waxing of barrels, or rather the coating of them on the inside with paraffin, is worthy of consideration, if, as some asserted, a barrel will absorb from five to ten pounds of honey, which must be lost by the producer. A barrel can be coated on the inside with paraffin at a cost of 10 cents—much less if there is any way of heating the barrel."



QUESTIONS AND ANSWERS.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Wiring Brood-Frames—Sweet Clover.

I have just bought the dovetailed hive with foundation starters one inch wide in the brood-frames, the frames being pierced ready for wire, but no wire in them.

1. Will it be necessary for me to wire these frames before putting bees in the hives?

2. What is the color of the bloom, and what is the shape of the stalk of the sweet clover?

3. Does the sweet clover grow and produce honey on the east slope of the Blue Ridge mountains? VA.

ANSWERS.—1. If you use full sheets of foundation, unless the foundation be unnecessarily heavy it will be likely to stretch and sag if you have no wires.

2. There are two kinds, one with white and the other with yellow blossoms. The stalk is round.

3. I have no positive knowledge as to that particular spot; but I doubt that there's a place in the State of Virginia where sweet clover will fail to grow and yield honey.

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Wooden Sticks Instead of Wiring Foundation.

The more I manipulate frames, the more I realize the importance of having the comb come to the bottom of the frame.

1. Do you put all of the five foundation-sticks on one side of the sheet of foundation, or alternate them on both sides?

2. What detrimental results may I expect if sticks 1-12 or 1-10 inch square are used, in place of 1-16 inch, as you say yours are? MICHIGAN.

ANSWERS.—1. All on one side. Much easier done, and just as good.

2. It would probably make no great difference. The only thing would be just so much unnecessary wood, and a little more perceptible ridge over the sticks when brood was sealed. It would probably be easier to make the larger sticks if you make them by hand. Manufacturers who have slicing machines with which they slice separators can slice the sticks quite cheaply.

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Prevention of Swarming.

The bee-fever again demonstrated its supremacy over environments, when in my case, June 10, 1899, I bought a strong colony of Italian bees and placed them in an attic room of a house in the middle of a busy city, with electric cars passing every 15 minutes during the day.

I placed the hive beneath a sky-light partly open. The room is plastered and that with ventilation from a small end window prevents undue heat.

This colony was ruined in moving—smothered, queen lost, and all but about a pint of bees which I carefully nurst and furnisht with a new queen.

During this time I consulted my A B C of Bee-Culture with great assiduity, and thereby saved the colony from being robbed out by another, which I bought meanwhile.

Colony No. 2, by the way, must have contracted the swarming-fever prior to my taking them, for no sooner had I gotten them home than they swarmed (June 24) in my absence. Of course, this swarming of bees in a city is very embarrassing to the owner, to say the least, not to mention the opinions of neighbors; so, since then, my main object in the study of bee-literature has been with the view to discovering some means of checking swarming, and to the getting of the most honey (increase not desired.)

I subscribed for the American Bee Journal thru whose guidance I have so far safely wintered the two colonies, altho I had to feed sugar last fall.

At present the bees are quiet and healthy in the attic room, from which light is excluded by curtains.

I should have stated before that the hives are the 8-frame Langstroth. After conning the Bee Journal diligently, I had about decided to try the Danzenbaker 10-frame hive, putting two bodies together and extract the honey; give plenty of ventilation below, with the entrances at each hive-body, and kill the old queen before time for swarming, according to the discussion on that point as given in the Bee Journal of Jan. 25. This was seemingly contradicted in the edition of Feb. 8, which says, "Probably no surer plan for causing swarming could be adopted."

If I use two hive-bodies and two entrances, do I need a separator or excluder between? and what plan better than the one contemplated would you advise for the coming season? MASSACHUSETTS.

ANSWER.—If you kill the old queen just before swarming season, you may be pretty sure of swarming, no matter how much room or ventilation, unless you kill all queen-cells but one nine days after swarming, in which case you would not be likely to have swarming. Or, listen for piping each evening after the eighth day, and when you hear piping destroy *all* cells.

Whether you use excluder between stories depends. (It may be mentioned in passing that in any case a large entrance to each story will do no little to keep down swarming.) You may allow the queen full range of the two stories, better still three stories if the colony is strong, and there will likely be no swarming. You may confine the queen to the lower story with an excluder, doing this just before the swarming season, leaving all the brood in the two upper stories and empty combs with the queen below, and you are pretty safe from swarming.

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Treatment of a Laying-Worker Colony and a Colony with Drone-Laying Queen.

I think I know what you would do with a colony of bees having a laying worker, but if you had one colony with a laying worker and another with a drone-laying queen, I would like to know whether there would be any difference in your treatment of the two colonies. This is a point never toucht upon in any bee-literature that I remember reading, hence the question. IOWA.

ANSWER.—Your evident belief that there is a difference as to treatment is correct. If the colony with the drone-laying queen has been in that condition a long time and is weak, then there should be no difference; break up. A colony with laying workers is generally rather weak, if not very weak, and what bees there are have past their prime; whereas the presence of a drone-laying queen may be discovered while the colony is still strong with a fair quota of young bees. In such case, kill the drone-layer and give another queen. Such a colony, you no doubt know, will accept a queen more readily than a colony with laying workers.

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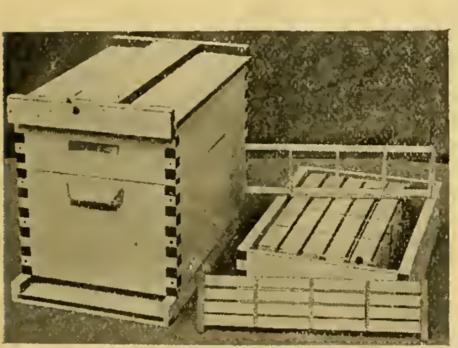
Sulphuring Mothy Brood-Frames.

How much sulphur should I burn in a house 6 feet square and the same height, to kill moths in brood-frames? What is the proper way to burn it to get the best results? NEW JERSEY.

ANSWER.—To kill worms in comb honey, when as yet they are tiny things, is quite a different matter from killing worms of full size in brood-combs. My experience has been that the latter is a very difficult matter, and I don't know how much sulphur would make it a success. I would try about two pounds as a starter, closing up everything as tight as possible, and leaving it closed for 24 hours after starting the fire. If that should not prove successful, you might try a stiffer dose. Take a dish of almost any kind, and put ashes in it. In this set another dish to contain the sulphur, and lay a hot iron or live coals on it. Unless the number of combs is considerable, it may be well to go over them by hand and pick out the biggest worms. But I wouldn't fool with sulphur in cold weather; put the combs where they'll freeze, and that will end the worms.

Root's Column

Many bee-keepers now using the 4¼x4¼ inch bee-way sections in the dovetailed hives want to try Root's plain sections and fences, but do not like to have any other size than the 4¼x4¼. For such we recommend the hive shown below:



Root's AE64P/8 Hive.

These hives are fully described in our catalog and shown in Fig. 303. We have sold more of these hives than any other style the past season.

These hives may be ordered of any of the following dealers:

The A. I. Root Co., 1024 Mississippi Street, St. Paul, Minn.
The A. I. Root Co., Mechanic Falls, Maine.
The A. I. Root Co., 10 Vine Street, Philadelphia, Pa.
The A. I. Root Co., Syracuse, N. Y.
George W. York & Co., 118 Michigan St., Chicago, Ill.
Vickery Bros., Evansville, Ill.
Walter S. Pouder, 512 Mass. Avenue, Indianapolis, Ind.
Jos. Nysewander, Des Moines, Iowa.
W. W. Cary, Lyonsville, Mass.
M. H. Hunt & Son, Bell Branch, Wayne Co., Mich.
Geo. E. Hilton, Fremont, Mich.
John Nebel & Son, High Hill, Mo.
C. H. W. Weber, 2146 Central Avenue, Cincinnati, Ohio.
A. F. McAdams, Columbus Grove, O.
Buell Lamberson, Front St. (180) Portland, Oregon.
Prothero & Arnold, Du Bois, Pa.
John H. Back, 235 W. 3rd North St., Salt Lake City, Utah, or

The A. I. Root Co.,
MEDINA, OHIO.

GENERAL ITEMS

Wintering Well—Good Prospects.

Bees are wintering well, and the prospects are good for a honey-year.

H. W. McCombs.
Washington Co., Iowa, March 7.

Management Important.

My bees seem to have wintered all right. I have 250 colonies; have been in the business 22 years, and have never yet had a complete failure. I believe that is doing pretty well in a locality where one has to depend entirely upon white clover, Spanish-needle and smartweed for a crop. Another disadvantage is that the land, as a rule, is all well cultivated, kept rather clean of weeds, and the wet places tiled. My experience is, however, that success depends a great deal upon management.

Emil J. Baxter.
Hancock Co., Ill., March 7.

Bees Gathering Pollen.

We are having fine spring weather, and bees are busy bringing pollen, but I think hardly any honey. Wintering bees is no problem here, but how to make them fill their surplus apartment is sometimes a puzzle that's hard to solve. Last year they wouldn't work in the surplus arrangement at all, and we couldn't make them, as the white clover from which we get our surplus was a total failure—something that doesn't happen every day. The first thing bees find in spring is pollen from cedar, then follow in order as named: Willow, dandelion, maple, fruit-bloom, huckleberries, blackberries, salalberries, greasewood, white clover, nightshade, fireweed, etc. I seeded a patch to sweet clover last summer, and it came out about 3 feet; this year it ought to grow much taller, but, will it have honey, is the question.

And. Olson.
Jefferson Co., Wash., Feb. 26.

Eucalyptus for Honey.

On page 89, Dr. J. McLean speaks of the eucalyptus tree as being very good for honey, and as they do well here I would like the names of the best varieties for honey. I also would like to know about the time of blooming.

Geo. B. Macleod.
Ventura Co., Calif., Feb. 20.

[We referred the foregoing to Dr. McLean, who has kindly replied as follows:—Editor.]

I would say that the best varieties of eucalyptus to plant in California for Mr. Macleod's purpose, are those known as Eucalyptus Globulous and Eucalyptus Amygdalina; both thrive amazingly in that State when properly planted and cared for during the first three years of their growth. The globulous has much more rapid growth, and if planted within a reasonable distance from the sea coast (the nearer the better) will grow at the rate of eight or ten feet per annum.

In order to form a nice little grove they should be planted in clumps of

Extra Wide Seat Phaeton—Side lamps, curve dash, double perch, fenders, with shafts, $67. Dealers will ask you $95 for same.

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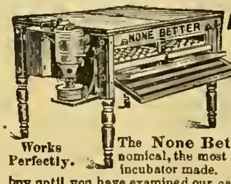

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Pouder's Honey-Jars and everything used by bee-keepers. Prompt Service—low freight rate. Catalog free. WALTER S. POUDER,
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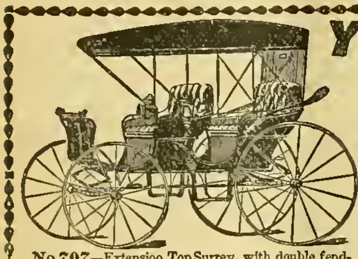

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but sell all goods direct from our factory to the purchaser at wholesale prices. We are the largest manufacturers of vehicles and harness in the world selling to the consumer exclusively. We have pursued this plan successfully for 27 years. You assume no risk as we ship our goods anywhere for examination and guarantee safe arrival. Largest selection in the country as we make 178 styles of vehicles and 65 styles of harness. Catalogue free.
No 707—Extension Top Surrey, with double fenders. Complete with side curtains, aprons, lamps and pole or shafts. Price, $80. As good as sells for $40 more.
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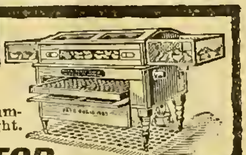

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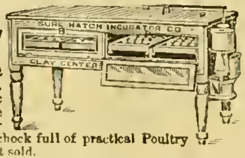

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from a tray full of eggs. That's what the SURE HATCH INCUBATOR is designed to produce, and it does it with great regularity. Hundreds in use. Automatic throughout. Let us quote you a price laid down at your station. Our catalogue is chock full of practical Poultry information. It is free—not sold.
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FREE Our handsome Garden Annual and Seed Catalogue, or for a 2c stamp, Catalogue and a packet of the IMPERIAL GERMAN PANSY. If you will send us the names of 6 neighbors who buy seed by mail, will send the Pansy Seed FREE for your trouble. Address,
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7D4t Please mention the Bee Journal.

The State of Michigan which in years past has contributed so much material towards the building and furnishing of our homes, is coming to the front very rapidly as the choicest and surest seed supply of the country. Fruit, celery and potatoes have been their staples, but one enterprising man, Harry N. Hammond, of Fifield, is making a great reputation by the most excellent quality of his field, garden and flower seeds. Mr. Hammond will be remembered by the stir he created last year with his Admiral Dewey Potato. Its success was so instant that it is probably the most popular potato to-day with those who always get a "little better" than market prices for their produce because it grades above the average. This season Mr. Hammond is scoring another success with his Thorobred White Dent Corn. His new Czar of Russia Oats also is destined to be generally popular. Write Mr. Hammond to-day for a copy of his free catalog which is profusely illustrated, and describes the above and hundreds of other equally notable bargains and prize offers. Please mention the American Bee Journal when writing.

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The representative modern Farm Paper of the Central and Southern Mississippi Valley. Page departments to every branch of Farming and Stock-Raising. Plain and Practical—Seasonable and Sensible. Send 25 cents, silver or two-cent stamps, and a list of your neighbors (for free samples), and we will enter your name for 1 year. (If you have not received your money's worth at end of year, we will, upon request, continue the paper to you free of cost another year).
W. M. BARNUM, Publisher,
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Metal Wheel.
We make them in all sizes and varieties, TO FIT ANY AXLE. Any height, any width of tire desired. Our wheels are either direct or stagger spoke. Can FIT YOUR WAGON perfectly without change.
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IF YOUR CHICKEN NETTING
don't suit, try Page Poultry Fence. It's heavier.
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say, about four, placed about three feet apart from each other in semi-circular form, each clump being about 18 feet apart. The planting must be determined by the nature of the soil; if hard and stony, holes must be dug for each plant, or for the clump, to a depth of say 18 inches; the plants carefully let down to the first leaf-shoots, and then tenderly filled around with mellow soil, leaving a basin around each about six inches deep for the first year, to receive the early rainwater. The second year gently rake in the loose soil and leaves, etc. If the soil be soft and free for the plow, a subsoil plow may be run the full length of intended grove or fringe, making two close furrows, into which plant and fill around with mellow soil as in the dug holes.

Much hardier plants than the two named must be used in and around Chicago, which I will be pleased to name for the guidance of any *bona-fide* enquirer. DR. J. MCLEAN.

LATER.—It has just occurred to me that I omitted to state in my letter in reply to Mr. Macleod, regarding the time that the eucalyptus named by me blooms. They commence to bloom about the middle of February, and continue for about three months. Sunflowers may be planted between the clumps in a grove, for the bees to work on at any time, said flowers therein planted become changed to somewhat resemble the eucalypti odor and medicinal quality. J. M.

Bees Getting Along Nicely.

My bees are getting along nicely in the cellar, by what I can read. I bought two fine colonies last spring, and put five in the cellar. Last year was not a very good one for the bee-keeper, but this year may be pretty good. There is nothing like keeping up one's courage. You know an Irishman always "tries again."

WESLEY HUNTER.
Ontario, Canada, March 5.

Fine Rain, but Too Late.

We have just had a fine rain amounting to an inch, which will materially help growing grain, but the bee-interests seem to be almost beyond help so far as getting much profit out of the business this year. The warm, dry weather of January and February brought the sage forward prematurely, and I think destroyed the hope of getting much nectar from those splendid honey-producing plants. With our average amount of rainfall this month, and some in April, most bees will probably pull thru in fair condition, but as for there being much honey to spare from this part of the State this year, I for one do not believe it.

ALBERT ROZELL.
Los Angeles Co., Calif., March 6.

No. 3.—Medical Animals.

Dick's dead. Yes, gone to Roosterland! His large family cackeled his praises, sung of his prowess and brave deeds on various barnyard battle-fields; of how he overcame the Shanghigh Philistine, and of his many other virtues; but for all that he was mortal, and made room for a younger and red-

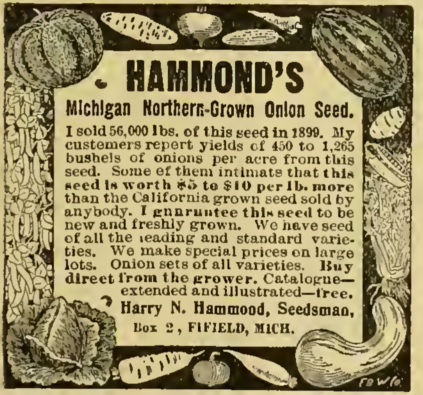
Sharples Cream Separators: Profitable Dairying

der chanticleer. He rests in piece-es.

You would naturally suppose that donkey's could have nothing to trouble them but brutal men and thoughtless boys, but they really get sick every now and then, generally as the result of bad treatment and starvation; and finally die like other living beasties. Their greatest trouble is an inflammation of the stomach, which bloats and swells until death comes to their relief. But whenever they can find a patch of big bull-thistles there is their panacea. They'll eat and eat of its prickly leaves, and lie down in the hot sun, and shortly they are well.

But what a miserable life is theirs! A 250-pound brute straddles the poor little burro, armed with a big club to beat it, and expects to climb the side of a steep hill with him! As well expect a child to carry a big sack of corn! Such inhumanity has made my blood boil more than once, and I have often wisht that patient Jennie would spill its burly tormentor down the precipice, irrespective of consequences.

The patient ox, too, is not proof against sickness. Men have trouble enough with one stomach, but old Jerry has three of them—no wonder he feels out of sorts at times. But he knows just how to cure himself if turned loose to find his medicine. He waddles along with his nose nearly to the ground, hollow-eyed and heated horns, now and then so weak he braces his legs so he can stand up. He makes a bee-line for the clump of poke-berries yonder in the pasture-lot—he's had it in mind a long time, and he is no



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Michigan Northern-Grown Onion Seed.

I sold 56,000 lbs. of this seed in 1899. My customers report yields of 450 to 1,265 bushels of onions per acre from this seed. Some of them intimate that **this seed is worth $5 to $10 per lb. more** than the California grown seed sold by anybody. **I guarantee this seed to be** new and freshly grown. We have seed of all the leading and standard varieties. We make special prices on large lots. Onion sets of all varieties. **Buy direct from the grower.** Catalogue—extended and illustrated—free.

Harry N. Hammood, Seedsman,
Box 2, FIFIELD, MICH.

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and send our Incubators to any responsible person. No one should buy an Incubator and pay for it before giving it a trial. It is made so that nobody can fail with it. **A child can run it.** 10 cts. worth of oil will make a hatch. **It beat all others** at World's Fair, Nashville and Omaha Expositions. We are sole manufacturers of the celebrated **New Premier** and **Simplicity Incubators.** Catalogue 5 cts. Plans for Poultry Houses, etc., 25c.

Columbia Incubator Co., 5 Adams St., Delaware City, Del.

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This company has purchast an edition of Prof. H. E. Weed's book, "Spraying for Profit," illustrated and practical; publisht price, 20 cents. Will be mailed by them for 15 cents, including a photograph of Century Sprayer, showing all working parts; and also their complete catalog and price-list of sprayers. Write for them, and mention the American Bee Journal, please.

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For home trade or shipping is Fancy Muskmelons.

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Osage Gem—new—we control entire stock,	Pkt. 10c	Oz. .50
Paul Rose—1899 selection by Mr. Rose,	Oz. 25c	lb. $2.50
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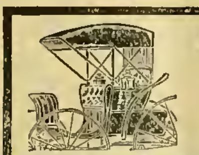

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The Queens Dr. Miller will send out on our orders will be precisely the same as those he rears for his own use, so of course they will be from his best stock. His best colony in 1899 had a queen reared in 1898; May 5, 1899, it had brood in 4 frames, and he gave it at that time a frame of brood without bees. It had no other help, but May 25 a frame of brood with adhering bees was taken from it, and the same thing was repeated June 3, leaving it at that time 5 frames of brood. It stored 178 sections of honey, weighing 159 pounds (and that after July 20, in a poor season), being 2⅔ times the average yield of all his colonies. A point of importance is the fact this colony did not swarm, and an inspection every week or 10 days showed that at no time during the entire season was there even so much as an egg in a queen-cell. Dr. Miller expects to rear queens from this one during the coming summer.

The demand nowadays is for BEES THAT GET THE HONEY when there is any to get, and Dr. Miller has such bees. You will want to have a queen from his best, we are sure.

Do not send any orders to Dr. Miller, as all orders MUST come thru us, according to our agreement.

Remember, send us $1.00 for ONE NEW SUBSCRIBER to the American Bee Journal for one year, and YOU will get ONE OF DR. MILLER'S UNTESTED HONEY-QUEENS FREE AS A PREMIUM. Or, send us $1.50 and we will mail you the American Bee Journal one year and a queen. Or, the queen alone for $1.00. Orders for queens to be filled in rotation, beginning about June 1st.

Address all orders to **GEORGE W. YORK & CO.,**
118 Michigan Street, CHICAGO, ILL.

sooner up to them than he begins to munch on its leaves; then lies down to rest. After awhile he tries it again, and the first thing you know he's all right, and ready for all the tender grass he can get.

But of all the "cute" animals familiar to us is the festive mule. He knows a great deal more than the drivers who generally have supervision over him. When treated kindly Mr. Mule is very tractable and industrious, but if abused he tries to "even up" scores by a vigorous kick when the chance offers. I admire his pluck!

From one cause or another he, too, gets shy on his feed, hangs his head down, with ears nearly to the ground, just able to wabble to the sunny side of the barn. Poor Mule looks very disconsolate—not even a handful of oats will prove an allurement. But he smells his medicine from afar! Open the gate and you'll see him make a straight shoot for a bunch of jimson-weed growing in such luxuriance just below the pig-pen, down there. What a breath that mule must have after his feast! But it won't be three days before he will be kicking up his heels like a trained "foot-baller."

Because of bad harness, muley often has a sore back which he proceeds to cure as follows: He hunts up the thickest patch of smartweed in the slough—near the creek, you know—and he'll roll and roll over those weeds until he has rubbed on plenty of its juice, and the mud that also sticks to him acts as a piece of court-plaster to protect the sore while it is healing. Isn't that good mule-sense?

The most pathetic, because the meanest, use that mules and horses are finally put to, in some European countries—France and Austria in particular—is being driven into leech-lakes, where the leeches may thrive and fatten for market on the poor old horses and mules that have so long

Great Poultry Operations.—H. S. Karsendick, New Orleans, purposes having one of the largest poultry farms in the world. Altho now well stockt, he will install 55 new Prairie State incubators, capable of adding to his big flocks about 15,000 chicks every third week. In Georgia, State Senator White, at Smyrna, has bought 10 of these incubators, and G. M. Clark & Co., at Kensington, 10 of the same capacity. These will be among the largest poultry operations in this country. All their apparatus, incubators, brooders, etc., were made by the Prairie State Incubator Co., Homer City, Pa. Our readers interested in chickens should write for their 128-page catalog, not forgetting to mention the American Bee Journal.

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All are Leaders and UP-TO-DATE in every respect.
Excellent material and finest workmanship.
LEWIS WHITE POLISHT SECTIONS
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Not only do we manufacture the finest Bee-Keepers' Supplies, but our Packing-Case insures their arrival at your railroad station in perfect condition.
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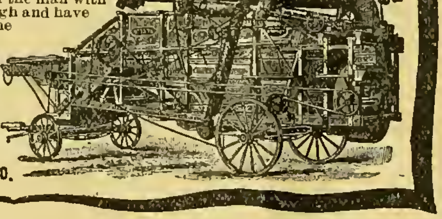

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will save enough extra grain in threshing to pay the taxes of the ordinary farm. It combines the apron and vibrator principles and is as far ahead of other threshers as they are in advance of the man with a flail. They thresh fast enough and have capacity enough to suit the thresherman, and it
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enough to suit the most exacting farmer. Last indefinitely. Send for free catalogue of Threshers, Traction, Portable and Semi-Portable Engines, Horse Powers, Saw Mills, etc.
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alone will be engraved on the Aluminum Case. It is something that everybody ought to have. Be sure to write very plainly what you want printed on the cards, and also the name for the case.
We will mail the cards and case for 50 cents, when wanted without sending a new subscriber, or will club them with the Bee Journal for one year—all for $1.40.
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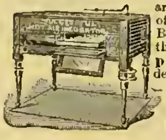

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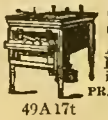
are hatched by our incubators, and more of them than hens can hatch. Why? Because our regulator never fails to keep the heat just right. Catalogue printed in 5 languages gives full descriptions, illustrations and prices, and much information for poultry raisers. Sent for 6 cents.
DES MOINES INCUBATOR CO.,
Box 78. Des Moines, Ia.

SEED DUE BILL FREE
To get new customers to test my Seeds, I will mail my 1900 Catalogue, filled with more bargains than ever and a 10c Due Bill good for 10c worth of Seeds for trial absolutely free. All the Best Seeds, Bulbs, Plants, Roses, Farm Seeds, Potatoes, etc., at lowest prices. Nine Great Novelties offered without names. I will pay $50. FOR A NAME for each. Many other novelties offered, including Ginseng, the great money making plant. Over 20 varieties shown in colors. $1100 in cash premiums offered. Don't give your order until you see this new catalogue. You'll be surprised at my bargain offers. Send your name on a postal for catalogue today. It is FREE to all. Tell your friends to send too.
F. B. MILLS, Box 88 Rosehill, Onondaga Co., N. Y.
1D7t Please mention the Bee Journal.

SPRAYING
with our new patent
Kerosene Sprayers
is simple indeed. Kerosene emulsion made while pumping. 12 varieties sprayers, Bordeaux and Vermorel Nozzles, the "World's Best."
THE DEMING CO., SALEM, O.
Western Agents, Henion & Hubbell. Chicago. Catalogue and formulas free.

Apiary SUPPLIES Bee-Hives,
(5 styles); also Sections, Veils, Smokers, Honey-Knives, Hive-Tools, Alsike and Sweet Clover Seed, Books on Bee-Culture, Etc. Address,
F. A. SNELL, Milledgeville, Carroll Co. Ill.
4A12t Please mention the Bee Journal.



310 First Premiums
Awarded to the PRAIRIE STATE INCUBATOR. Guaranteed to operate in any climate. Send for catalogue.
PRAIRIE STATE INCUBATOR CO. Homer City, Pa.
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Mention this paper
EVERGREENS
Hardy Sorts, Nursery Grown. Millions to offer. 6 to 8 in. $1; 12 in. $3; 2 to 3 ft. $10 per 100 prepaid; 4 to 6 ft. $20 per 100. 50 GREAT BARGAINS to select from. Forest and Fruit Trees, Vines, etc. Send for free catalogue. LOCAL AGENTS WANTED.
D. HILL, Evergreen Specialist, Dundee, Ill.
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HATCH CHICKENS
BY STEAM—with the simple, perfect, self-regulating
EXCELSIOR INCUBATOR
Thousands in successful operation. Lowest priced 1st-class hatcher made.
Circulars free. Send 6c. for Illus. Catalog
GEO. H. STAHL,
114 to 122 S. 6th St., Quincy, Ill.
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BEE-SUPPLIES
40-page Catalog FREE. Goods are the BEST. Prices are right. We can save you some on freight. Enquire of us.
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HONEY MONEY
results from the best care of the bees. That results from the use of the best Apiary appliances.
THE DOVE-TAILED HIVE
shown here is one of special merit. Equipped with Super Brood chamber, section holder, scalloped wood separator and flat cover. We make and carry in stock a full line of bee supplies. Can supply every want. Illustrated catalogue FREE
INTERSTATE MANFG. CO., Box 10, HUDSON, WIS.
Please mention Bee Journal when writing.

and faithfully served their heartless masters. It is a pitiful sight to see the poor beasts literally covered with the leeches that are sucking the last remaining drops of blood, finally to drop exhausted, food for wolves and ravens.

UNCLE FRANK.

Bees Didn't Do Well.

Bees have not done well here the last two years. Last year was too dry for white clover, also for fall bloom, which found the bees short of stores for winter. I have 70 colonies on the summer stands apparently in good shape. They will probably require a little feeding later on.

G. C. ALLINGER.
Marion Co., Ohio, March 5.

Convention Notices.

Chicago.—The Chicago Bee-Keepers' Association will hold its regular semi-annual meeting in Wellington Hall, 70 N. Clark St , Chicago, Ill., April 6, 1900, afternoon and evening. The meeting will be called to order at 1 p.m. Dr. C. C. Miller is expected to be present if his health will permit. Mr. E. R. Root has been invited, also Mr. N. E. France, and others. A good time may be expected by all. Let every one come, especially the ladies.

Park Ridge, Ill. HERMAN F. MOORE, Sec.

Utah.—The Utah State Bee-Keepers' Association will hold its semi-annual convention in the City and County Building, Salt Lake City, Apr. 6, 1900, at 10 o'clock a.m. A full program in the interest of the industry will be presented, and all our bee-keepers can help themselves by aiding the Association, and in order to create a closer bond of union among our bee-keepers. As a further incentive to the success of the bee-industry, it is very desirable to have our bee-keepers from all parts attend the spring convention.

J. B. FAGG, Sec.

We Wish to Call Your Attention to the advertisement of the Kalamazoo Carriage and Harness Company, which appears in this issue of our paper. These people are large manufacturers of vehicles and harness, and have just recently adopted the plan of selling their goods direct to the consumer. As will be noticed from the advertisement, they make the new and entirely novel offer to sell vehicles or a harness at less than wholesale prices. Considering their large and completely equipt factories we should say that they were entirely justified in this claim, for they certainly have the means at hand to make the public this unparalleled offer. Our readers will observe by reading thier advertisement that these people make a most fair business proposition. All goods are shipt subject to the approval of the customer, and if not found entirely satisfactory and exactly as represented, may be returned at company's expense. It will certainly pay our readers to write these people for catalog before buying goods of this class. Address them at Kalamazoo, Mich , box 53, not forgetting to say you saw their advertisement in the American Bee Journal.

Here we are to the front for 1900 with the NEW
CHAMPION CHAFF-HIVE,
a comfortable home for the bees in summer and winter. We also carry a complete line of other SUPPLIES.
Catalog free. R. H. SCHMIDT & CO.
Sheboygan, Wisconsin.
Please mention Bee Journal when writing.

BEES QUEENS
Smokers, Sections, Comb Foundation
And all Apiarian Supplies cheap. Send for FREE Catalogue. E. T. FLANAGAN, Belleville, Ill.
Please mention Bee Journal when writing.

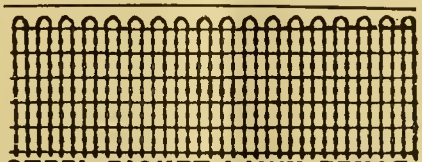
M. H. HUNT & SON,
SELL ROOT'S GOODS AT ROOT'S PRICES.
Shipping-Cases and Danz, Cartons are what you need to display and ship your honey in.
Send for Catalog. BELL BRANCH, MICH.
Please mention Bee Journal when writing.

SUFFERERS FROM LUNG OR KIDNEY
troubles can obtain valuable advice, FREE, by addressing DR. PEIRO,
34 Central Music Hall, CHICAGO.
☞Write at once, stating age, sex, occupation, how troubled, post-office address, and enclose return stamp for immediate reply.

PAT. 1899
NEW C. VON CULIN

INCUBATOR FREE
on trial. The New C.Von Culin is most perfect in ventilation, moisture and heat
HATCHES EVERY HATCHABLE EGG. Money made and saved. Catalog FREE. Poultryman's Plans, 10c. Address.
The W. T. Falconer Mfg. Co.,
Ave. 98, JAMESTOWN, N.Y.
1A17t Please mention the Bee Journal.

Bee-Supplies!
We are distributors for ROOT'S GOODS AT THEIR PRICES for southern Ohio, Indiana, Illinois, West Virginia, Kentucky, and the South.
MUTH'S SQUARE GLASS HONEY-JARS
LANGSTROTH BEE-HIVES, ETC.
Lowest Freight Rates in the country.
Send for Catalog.
C. H. W. WEBER,
Successor to C. F. MUTH & SON,
2146-48 Central Ave., CINCINNATI, O.



STEEL PICKET LAWN FENCE,
Field and Hog Fence with or without bottom cable barbed. M. M. S. Poultry Fencing. Lawn and Farm Steel Gates and Posts.
UNION FENCE CO. DeKalb, Ill.
3A13t Please mention the Bee Journal.

DITTMER'S FOUNDATION Wholesale and Retail
This foundation is made by an absolutely non-dipping process, thereby producing a perfectly clear and pliable foundation that retains the odor and color of beeswax, and is free from dirt.
Working wax into foundation for cash, a specialty. Write for samples and prices.
A full line of Supplies at the very lowest prices, and in any quantity. Best quality and prompt shipment. Send for large, illustrated catalog.
GUS. DITTMER, Augusta, Wis.
Beeswax Wanted.

☞ IF YOU WANT THE BEE-BOOK
That covers the whole Apicultural Field more completely than any other publisht, send $1.25 to Prof. A. J. Cook, Claremont, Calif., for his
Bee-Keepers' Guide.
Liberal Discounts to the Trade.

California! If you care to know of its Fruits, Flowers, Climate or Resources, send for a sample copy of California's Favorite Paper—
The Pacific Rural Press,
The leading Horticultural and Agricultural paper of the Pacific Coast. Publisht weekly, handsomely illustrated, $2.00 per annum. Sample copy free.
PACIFIC RURAL PRESS,
330 Market Street, - SAN FRANCISCO, CAL.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, March 8.—There is a small trade in choice to fancy white comb honey at 15c per pound, but aside from this there is little doing in any other grade, with an uncertain range of prices, for those who have it want to sell and buyers can get reductions from prices askt. Off grades of white, 10@13c; ambers, 8@10c; dark, 7@9c. White extracted weak at 8c; ambers, 7@7½c; dark, 6½@7c. Beeswax steady at 28c.

R. A. BURNETT & Co.

CINCINNATI, March 3.—There is some demand for extracted honey from manufacturers at 7@7½c for amber and Southern; clover, 8@8½c. Comb honey is selling firm at 14@16½c in a small way. Beeswax, 25@27c.

C. H. W. WEBER,
Successor to Chas. F. Muth & Son and A. Muth.

LOS ANGELES, March 1.—1-pound frames, 12½-@15c; 2-pound cans, 2 dozen in case, per dozen, $2.50; 2-pound glass pails, per dozen, $2.50. Extracted, water white, 60-pound tins, per pound, 8½c; light amber, 7½@8c; dark amber, 7½c. Beeswax, 25@26c.

The prospect for a crop is very bad. Small lots in the hands of wholesale houses are firmly held.

BOSTON, March 9.—Our honey market is showing some signs of lower prices, altho the stock on hand is not large. At the same time prices are so much higher than previous years that the trade have taken it very slowly and the results are that the holders are willing to range prices quite a little in order to move stock on hand. Prices range: Fancy white, 17@18c; No. 1, 15@16c; amber, 10@12c; buckwheat almost unsalable. Extracted, best white California, 8½c.

BLAKE, SCOTT & LEE.

KANSAS CITY, Mar. 10.—We quote fancy white comb, 15c; No. 1, 14c; No. 1 amber, 13½c; No. 2 amber, 13c. Extracted, white, 8c; amber, 7c; dark, 6c. Beeswax, 22@25c.

The supply of comb is very light, demand good; supply of extracted light, especially white, demand fair. C. C. CLEMONS & Co.

BUFFALO, March 3.—Market nearly bare of all grades of honey. Probably no more from any source to market, but if so, fancy white comb is firm at 15@16c. Other grades from 14c downward, with the poorest at 8@9c. Fancy pure beeswax continues at 28@30c.

BATTERSON & Co.

NEW YORK, Feb. 8.—During the past 30 days our market has been somewhat slow and easy in both comb and extracted honey. Stocks of comb honey, however, are almost exhausted, and there is a fair demand for all grades. Fancy white selling at 15c; No. 1 white at 13@14c; fancy amber, 11@12c, and buckwheat at 9@11c, according to quality, etc.

Our market is well supplied with extracted, tho prices are firm and unchanged. Beeswax sells very well at from 26@28c, according to quality. HILDRETH & SEGELKEN.

SAN FRANCISCO, Feb. 28.—White comb, 11½@12½c; amber, 8@10c. Extracted, white, 7½@8c. light amber, 7@7½c; amber, 5@5½c; Beeswax, 26@27c.

Supplies and demand are both at present limited, which is to be expected at the close of a light crop year. Business doing is mostly of a small jobbing character, and at practically the same figures as have been current for some time past.

OMAHA, Feb. 13.—Demand shows some improvement in January, having been much more active, but as anticipated there is no advance in prices. Market remains steady at 14@14½c for fancy white comb and 8½c for white extracted. The latter is pretty well cleaned up along the Missouri River, and it looks as if there would be some shortage before another crop comes in. From present appearances there is about enough comb honey to go around at the present prices, hence we look for no particular change in values. PEYCKE BROS.

Wanted! Your HONEY
We will buy it, no matter where you are. Address, giving description and price,
34Atf THOS. C. STANLEY & SON, Fairfield Ill.

Wanted to Buy Honey Would like to hear from parties having extracted honey to offer, and their price delivered in Cincinnati. I pay cash on delivery.
C. H. W. WEBER, Successor to C.F.Muth & Son,
10A 2146-48 Central Ave., Cincinnati, Ohio.

Latest Improvements. Perfect Goods.
Very Reasonable Prices.

Hives, Shipping-Cases
Sections,
Extractors, Etc.

EVERYTHING A BEE-KEEPER NEEDS. *********

Catalog and copy of
"The American Bee-Keeper"—FREE
—ADDRESS—
THE W. T. FALCONER MFG. CO.,
JAMESTOWN, N. Y.

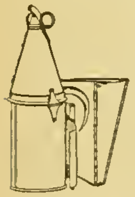
The American Bee-Keeper is a live Monthly, and has been publisht by us for the past 10 years—50 cents a year.

Please mention Bee Journal when writing.

MADE TO ORDER.

BINGHAM
BRASS
SMOKERS

made of sheet-brass which does not rust or burn out should last a life-time. You need one, but they cost 25 cents more than tin of the same size. The little pen cut shows our brass hinge put on the three larger sizes.



No wonder Bingham's 4-inch Smoke Engine goes without puffing and does not

DROP INKY DROPS.

The perforated steel fire-grate has 381 holes to air the fuel and support the fire.

Direct-Draft Perfect
BINGHAM
BeeSmoker

Prices; Heavy Tin Smoke Engine, four-inch Stove, per mail, $1.50; 3½-inch, $1.10; three-inch, $1.00; 2½-inch, 90 cents; two-inch, 65 cents.

BINGHAM
SMOKERS

are the original, and have all the improvements, and have been the STANDARD OF EXCELLENCE for 22 years. Address,

T. F. BINGHAM,
Farwell, Mich.

I ARISE

To say to the readers of the BEE JOURNAL that

DOOLITTLE...

has concluded to sell QUEENS in their season during 1900, at the following prices:

1 Untested Queen ..$1.00
3 Untested Queens.. 2.25
1 Tested Queen 1.25
3 Tested Queens.... 3.00
1 select tested queen 1.50
3 " " Queens 4.00
Select Tested Queen, last year's rearing. 2.50
Extra selected breeding, the very best .. 5.00

Circular free, giving particulars regarding each class of Queens, conditions, etc. Address,

G. M. DOOLITTLE,
11A26t Borodino, Onondaga Co., N. Y.

Please mention Bee Journal when writing Advertisers.

23rd Year Dadant's Foundation. 23rd Year

Why does it sell so well?

Because it has always given better satisfaction than any other.
Because in 23 years there have not been any complaints, but thousands of compliments.

We guarantee satisfaction.

What more can anybody do? BEAUTY, PURITY, FIRMNESS, No SAGGING, No LOSS.
PATENT WEED PROCESS SHEETING.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

BEE-KEEPERS' SUPPLIES OF ALL KINDS.

Langstroth on the Honey-Bee, Revised.

The Classic in Bee-Culture—Price, $1.25, by Mail.

Beeswax Wanted at all times.

CHAS. DADANT & SON,
Hamilton, Hancock Co., Ill.

Please mention Bee Journal when writing.

PATENT WIRED COMB FOUNDATION
Has no Sag in Brood-Frames.

Thin Flat-Bottom Foundation
Has no Fishbone in the Surplus Honey.
Being the cleanest is usually workt the quickest of any foundation made.

J. A. VAN DEUSEN,
Sole Manufacturer,
Sprout Brook, Montgomery Co., N.Y.

FREE FOR A MONTH....

If you are interested in Sheep in any way you cannot afford to be without the best Sheep Paper publisht in the United States.

Wool Markets and Sheep

has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.

WOOL MARKETS AND SHEEP, CHICAGO, ILL.

The Mississippi Valley Democrat
—AND—
Journal of Agriculture,
ST. LOUIS, MO.

A wide-awake, practical Western paper for wide-awake, practical Western farmers, stock-raisers, poultry people and fruit-growers, to learn the science of breeding, feeding and management. Special departments for horses, cattle, hogs, sheep, poultry and dairy. No farmer can afford to do without it.

It stands for American farmers and producers. It is the leading exponent of agriculture as a business, and at the same time the champion of the Agricultural States and the producer in politics. Subscription, One Dollar a Year.

☞ Write for Sample Copy

Please mention Bee Journal when writing.

COMB FOUNDATION,

WHOLESALE AND RETAIL.

Our catalog describes several styles Hives, Sections, and in fact EVERYTHING A BEE-KEEPER NEEDS. It is free. We can please you if anyone can. BEES AND QUEENS IN SEASON.

Apiaries—Glen Cove, L. I. I. J. STRINGHAM. 105 Park Place, New York, N. Y.

STRAWBERRIES—90 Varieties. Including new Gladstone, Pennell, Senator Dunlap, Twilight, Livingstone, Emperor, Empress, Rough Rider, W. J. Bryan. All standard, well-rooted plants. Don't miss our plant collection offers. FLANSBURGH & PEIRSON, LESLIE, MICH.

POTATOES. Early Snowball and twenty other leading varieties. *Catalogue Free.*

7A6t Please mention Bee Journal when writing.

Marshfield Manufacturing Company.

Our specialty is making SECTIONS and they are the best in the market. Wisconsin BASSWOOD is the right kind for them. We have a full line of BEE-SUPPLIES. Write for free illustrated catalog and price-list.

MARSHFIELD MANUFACTURING CO., Marshfield, Wis.

Please Mention the Bee Journal when writing Advertisers.

GEORGE W. YORK, Editor.

AMERICAN BEE JOURNAL.

ESTABLISHT IN 1861 OLDEST BEE-PAPER IN AMERICA

DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS.

40th YEAR. CHICAGO, ILL., MARCH 22, 1900. No. 12.

CONTRIBUTED ARTICLES

A Michigan Bee-Keeper and His Apiary.

BY CARSON VAN BLARICUM.

THE illustration shown herewith is my apiary, taken some five years ago, when I concluded to engage in bee-keeping. I began to know a honey-bee as early as 1884, from that time until 1894 I had from one to eight colonies which were manipulated on the "know-nothing" plan, and of course without any profit except what little honey we had for table use.

My first colony was purchast of a neighbor for $4.00. My father did the "riot act" all that summer with cotton cloth around a stick in place of a smoker, which I manipulated to his dictation. This same summer (as noted above) my father was badly stung and of course has held aloft from the bee-fever ever since.

I remember one day when we had finisht taking honey—(to "take" was to cut the honey from the brood-frames, replacing the same to be filled again.) About one hour afterward, we noticed a smoke issuing from the hive we had examined, and coming near we beheld the cover on fire. It took but a moment to remove it; the quilt was on fire and the brood-frame top-bars were blazing, the bees were in the air and on the ground in a state of complete rout. We extinguisht the blaze and shortly after they cast a swarm which made two colonies. They died the following winter.

My next venture was the coming June, when another neighbor placed a swarm in the hive for 50 cents, which was the nucleus of my present apiary of 32 colonies. These bees were large brown ones with gray bands instead of yellow ones.

My bees at present are nearly all Adels, which I think are superior, having tested different strains. I have been successful in controlling the swarming-impulse.

My plan of wintering has been an entire success for eight years. The winter of 1898-99 I prepared on the summer stands for winter 30 colonies, and lost two. I then increast them to 32. My intention is to double this number the coming season.

I produce comb honey exclusively, but I have a great call for extracted, of which I shall produce enough to supply the demand.

In 1898 my crop was 2,400 pounds, of which I sold 2,020 pounds. The past season I had only 1,800 pounds, and have sold to date 1,600 pounds.

My apiary is located as shown in the picture, each hive having its mate, or in pairs. The hives face east, and the two apple-trees on the north were blown out by the wind, so I plant sun-flowers for shade.

That person—a six-footer—with his thumb down the smoker-nozzle, is myself. The view was taken in the month of May, and in a rainstorm.

Calhoun Co., Mich., Feb. 25.

Mr. C. Van Blaricum and His Apiary.

❧

ORGANIZATION AMONG BEE-KEEPERS.

Enlarge the Membership of the National Bee-Keepers' Association and Establish Others.

BY F. GREINER.

AS a child is looking forward to the Christmas-time with great anticipations, so some of us bee-keepers look forward to the time when we will convene again at our annual gathering. Altho Mr. Hutchinson is of the opinion that the bee-papers have largely taken the mission of disseminating knowledge among the bee-keepers away from the bee-keepers' conventions, and that after returning home from one of our gatherings the most of us in answer to our dear wife's question, "What have you learned at the convention?" could only scratch our heads, yet I believe very few, if any, will ever go away from a bee-keepers' convention without having received some benefit, having learned something.

I would not have the reader infer that Mr. Hutchinson discourages, or in any way opposes, bee-keepers' meetings. He does not. He doesn't underrate the value of becoming acquainted with those who are engaged in the same pursuit with us, for the social intercourse affords us not only pleasures never to be forgotten, but we see and hear what others are doing, get their ideas, form an opinion of them—we become broader-minded and better.

I want to mention another great advantage which accrues from these simple meetings. Even the casual observer can not fail to see that organization brings with it benefits which are entirely out of reach for the single individual. Just see how people in other lines of business organize, and what they accomplish. Notice the coal combines, iron trusts, sugar, oil, and other trusts. These people don't spend their time and money in organizing for fun, but for the money that is in it. If we had a mind to *we* might get some money out of our organizations, and plenty of fun besides.

"In union there is strength," is an old adage. And still the majority of us bee-keepers are plodding along singly, each trying to cut his own path thru the bushes and briars, but few succeeding as they might. It seems hard to understand that two with their united efforts can overcome an obstacle much easier than either one alone. Instead of our National Bee-Keepers' Association counting its members by many thousands, it has in reality but a few hundred. And, after all, is it not wonderful what this handful of men have accomplisht? They are like the 300 Spartans at Thermopylæ, holding the Fort against the Million. I can somewhat imagine what we might accomplish if we *all* would unite our efforts. But should I pen my imaginations, it might appear to many that my pen had run away with my reason, so I defer.

I am a member of a small county organization, and I am proud of what we, under the leadership of an energetic and progressive president, have accomplisht. As an illustration only, I will speak of some of these achievements in the hope to inspire others to do likewise or better: In numbers few, comparatively, we succeeded in having an anti-spraying bill past. We stirred up the State organization into activity, in consequence of which the adulteration bill is being pusht on. We succeeded in interesting State and Federal government in bee-culture so that appropriations have been conceded. In the State of New York any local organization may now have the aid from the Bureau of Farmers' Institutes.

We have also shown our influence with the managers of local, county, and State fairs. Very much more liberal premiums have been offered of late years for apiarian exhibits than formerly, which, of course, benefits the bee-keeper. His business is in consequence recognized much more as an important branch of agriculture with the general class of people than it was heretofore.

When the National Bee-Keepers' Association first started, I joined its ranks; but I became discouraged and (I may as well say it) disgusted, because the bee-keepers did not support it. I thought then that I had reason to leave the organization, and did so. A better spirit, however, prompted me to again enter the ranks a few years after, and to-day I am proud of the achievements of that body of good men.

Xerxes with his million warriors tried in vain to subdue the 300 Spartans—he could not do it by fair means. The adulterators of food and honey with their millions of dollars, and the fraudulent commission men—they quake in their shoes before the handful of energetic men in the National Bee-Keepers' Association. It is only by foul means that they occasionally gain a slim victory. It does not often require a lawsuit to bring transgressors to terms. Many a bad debt has easily been collected, the sale of adulterated honeys has been discontinued in instances when the offenders were aware that an organization was after them.

Is it necessary for me to enter into all the details? It seems to me that even the skeptic might be convinced of the advantages to be gained by uniting our efforts in the furthering of our interests and the protection of our pursuit.

By the way, I hold that it is about as essential to support the local bee-keepers' association as it is to give your support to the National. I am afraid there are a great many bee-keepers who stand idly by waiting to see some one else, more determined, more progressive, haul the chestnuts out of the fire with their own paws, as it were; and as soon as they find the danger of burning *their* paws is over, they will flock around the fire and try to get their fill free of cost.

Friends, is that strictly honorable, or even fair?

Let us stand by another by thousands, not merely a few hundred. Germany's bee-keepers are setting us a good example; one we might well follow. A petition regarding adulteration of honey has lately been sent to the Reichstag in Berlin with *34,623* signatures!

Brethren, are we asleep? If so, let us bestir ourselves. It costs but one dollar per annum to be a member of the National Bee-Keepers' Association, and perhaps 50 cents a year membership fee in your county association. Give these associations your support. If you can not for some reason attend the annual meetings, send in your dues, anyhow. It requires some money to conduct the business of the association properly and decently, and very often the larger part of the expenses has to be borne by the officers.

The new constitution of the National Bee-Keepers' Association provides that all members of any local bee-keepers' association may become members of the National on application of their secretary and his paying 50 cents per annum for each local member. If the membership of a local association will act in unison, every member may for $1.00 be a member of both organizations. It seems to me that is "dirt cheap." No bee-keeper in our land ought to miss this opportunity; no bee-keeper can afford to get along without the benefits accruing from belonging to these associations, and the protection and insurance guaranteed by them. Let us all join! Ontario Co., N. Y.

No. 8.—The Honey-Knife—How to Get the Most Out of It.

BY "OLD GRIMES."

A SIMPLE tool is a honey-knife. All there is of it is the handle, the shank, and the blade. We can all remember when the latter was a long, thin, flexible blade, and the best in that line was the Novice honey-knife. But since the introduction of the heavier Bingham and Hetherington knife but few of these light knives are used. The Bingham and the Cowan now take the lead, with the Bingham the greater favorite, which seems to be just the right weight to avoid clumsiness.

In selecting a knife for rapid work there should be a proper balance between handle and blade, and the bent shank should be very rigid. A good share of the shanks are made too light, and give too much, and not infrequently break. When said broken shank is mended, and made so heavy that there is no give to it, there is much more comfort in working with it.

A honey-knife is immerst more or less in cold or hot water, and this has a tendency to loosen the shank in the handle, and when this occurs while busy extracting it is no small vexation. Manufacturers should be sure to make a hold-tight connection.

It may be entirely superfluous to say that to get the most out of a honey-knife it should be kept sharp; still we have known men to haggle away with a dull knife to the detriment of the comb and the temper of the operator. While we have seen knives sharpened on grind-stones, emery wheels, scythe-stones and files, I consider the grindstone the right tool to keep the proper bevel on the blade, and an oil-stone to finish up with. Always have the oil-stone handy, and keep a razor-edge on the knife.

To get the most out of a honey-knife have plenty of light. We have seen many dingy honey-houses and the uncapping-can in the most dingy corner. The full light of a large window should fall upon the work.

We have our knife in hand and are ready to uncap. We will suppose that we are working our bees in a Langstroth hive, and have before us a Langstroth frame nicely filled and capt. The value of a comb for rapid work depends upon its age and the uniformity of surface. If we have used foundation and carefully spaced the frames we will have combs of full value. Now, before we make a cut on the surface of that beautiful comb, we must decide whether we shall use a hot or a cold knife. In any event we must have two honey-knives, and a shallow pan in which to place them. A long bake-tin about three inches deep will do, but where there is much extracting to be done a dish that will hold a gallon of water is better.

Ordinarily we can use this water cold, but if the honey is very thick, the combs new and the weather cool, heated water is necessary, and an oil-lamp accomplishes the purpose. Some bee-keepers prefer to use hot water upon all occasions, and a water-heater is fitted to a common lamp. In fact, it is a jacketed tin chimney, and the knives are inserted from the top. A hot knife will certainly slip under the cappings beautifully for a few times, but it soon cools, and must be changed for a hot knife. With this continuous changing the water in the little heater soon becomes thick with honey carried into it by the knives, and we soon have boiling syrup instead of water to contend with. Ordinarily in hot weather the uncapping can be done with less bother to the operator by using lukewarm water, or water warmed by the temperature of the hot weather.

One would think that the shaving of the cappings from a comb would be done in quite the same way by different individuals, but there are about as many ways as there are men to do it. Here is a man that has never uncapt much honey, and he lays the comb flat upon a bench, and is dipping the cappings off with the point of the knife. Another will hold the comb upright and uncap with that portion of the knife that extends from the point to the curve. There are others who hold the comb in such a way that the cappings when they slide over the knife immediately attach themselves to the comb again, and have to be removed the second time.

The proper way to hold a comb is to grasp the upper corner firmly between the thumb and fingers, allowing the lower corner furthest from you to rest upon the support. And this support is worth considering. A sharp-pointed wire-nail makes a good support. The frame will not slip from it, and can be readily whirled around when necessary. If the comb is capt only half way down, one cut up will do the job for that side; and be sure to hold the comb over at such an angle that the capping, as it leaves the knife, will drop into the uncapping-can.

If the comb is completely capt it will take two strokes or shaves to a side. Many prefer to make both of these an upward cut. A very neat way practiced by some is to make one cut up on the far side, then keep the knife right along under the cappings across the top in a curve until the point of the knife is toward you, and then down, making a continuous cut from start to finish. It requires considerable practice to get on to this movement, but the wrist and the fingers can soon be trained to the accomplishment. Another method is to shave up one side and down the other. The downward shave here requires a firm wrist and a quick eye.

Some operators allow the knife to dig into the comb and to take off quite an amount of honey with the cappings. It is better to take a thin capping unless dealing with an uneven comb. Where there are prominences and hollows the operator should heroically shave down to an even thickness, and at the next extracting you will have a good crop to work with.

To get the most out of a honey-knife the extracting-frames should be free from projecting nails or projecting metal of any kind, and all so-called metal self-spacing devices should be avoided. When a nicely sharpened knife runs against one with a drawing motion, it causes a shock to the operator as well as to the knife.

When the extracting season closes, clean the knives and lay them away until needed for extracting again. An uncapping-knife is for uncapping, and will not work well as a butcher-knife, or for scraping bottom-boards or covers. Use the proper tools for these purposes, and in that way you will get the most out of your tools.

A Few Notes and Comments.

BY S. T. PETTIT.

HONEY TAFFY.—On page 138, Dr. Miller, in answering "New Jersey" on how to make honey-taffy and not burn it, says: "The whole secret is to cook it very slowly. Don't put it on too hot a place on the stove." Good so far, but there is another secret that is very helpful, viz.: Frequent, or better still, constant stirring until it boils. Even on a very slow fire there is danger of burning if the latter precaution be not observed.

SUPPRESSING HIVES.—Again, on page 136, I note what you say under the heading, "Suppressing Hives." You don't seem to think it the duty or business of manufacturers to boom some one else's hives to their own injury. Nor do you believe it your business to help those who would start another bee-paper. Now, if you will carry that thought right down the lane until you come in contact with poor, struggling bee-keepers who are being crowded out by new comers and beginners; and then if you will show up those intruders as you have your own would-be opponents, I believe the majority of our best apiarists would appreciate your summing up of the matter. You know, not long ago, you thought every farmer ought to keep some bees, and that every bee-keeper ought to teach them just how to do it. I am glad most bee-keepers have failed to agree with you in that matter. I trust you will give me a hearing.

EARLY BREEDING.—On page 132, R. C. Aikin gives us a readable article on comb-honey production, but does he not err in advocating so early breeding? I have attained to my idea of perfect wintering when my bees remain quiet until suitable weather and the time for putting them out arrives—so quiet that when carried from the cellar they seem nearly dead; and with but little loss of stores, and the less the better I am pleased. Such colonies have practically all the energy, vitality, vim and push of which they were possest when they went into the cellar. Their numerical strength is much the same, and the queen is fresh and ready for heavy duty. In all my experience these are the bees that give a good account of themselves.

It may be necessary later to remove some of their stores to make room for the queen; if so, you will find a call for it in those colonies that were breeding so early, whose old bees are disappearing so rapidly, and may be a little weak when the harvest comes, while the others will be boiling over with bees right from the start.

Mr. Aikin and I are a good way apart in this one particular. I believe nurse-bees that are confined to the hive until young bees are emerging, are played out.

The time is upon us for making observations, and I hope those who hold with Mr. Aikin will give this matter careful examination. Bees are wintering pretty badly indeed if a few colonies in the cellar can not be found very quiet with but very little brood, if any, and whose stores are not much reduced.

NEW HIVES.—On page 129, Mr. Johansen's apiary and those pretty trees make a lovely picture. In my early bee-keeping days a hive on exactly the same plan was exhibited by a man whose name I have forgotten, at the Western Fair, London, Ont. He was a good talker, and I came near investing in it. I have never heard from it since. He had great faith in his hive. West Ontario, Canada.

Shallow Divisible-Brood-Chamber Box-Hives.

BY C. DAVENPORT.

THERE are some who consider shallow divisible-brood-chamber hives superior in some respects to any kind or style of single-brood-story hives, but they cost more, and if one makes his own hives, aside from the cover and bottom-board, it is double the work to make them, in fact more, if closed-end frames are used, for with this style of frame the workmanship needs to be much more exact. It is, I believe, owing principally to these reasons that shallow divisible hives are not more largely used.

For the last seven or eight years I have been using a number of shallow divisible-brood-chamber box-hives with most excellent results, and, all things considered, I prefer them to this style of hive with frames, and with my management or method of using them I can obtain as much honey, either comb or extracted, and with less work than I could if they contained frames; and this is no experiment or hastily arrived at conclusion with me, for, as I said, I commenced using them a number of years ago, and have been gradually increasing their number, so that I have at present about 40 in use. Colonies in these hives can be dequeened, requeened, or divided as quickly, and usually more easily than in the most modern frame hives.

But the great advantage of these hives is that they cost no more, and are about as easily made as the old-fashioned box-hives; and as there has been such a sharp advance in the price of frame hives lately, and a poor crop in general last season, it may be of interest to some who will need more hives the coming season, for me to describe how these hives are made, and explain the method or methods to be followed in using them, for as probably all who will read this know that one, if not the principal, advantage claimed for divisible-brood-chamber hives is that nearly all the necessary manipulations are performed by handling the sections of the hive instead of the frames individually. This necessarily entails a different management from that followed with single brood-chambers, and unless this was understood and taken advantage of it would be folly to use divisional hives, for it would require more work to obtain the same results as could be obtained with single brood-chambers.

The main objection I found, aside from their cost, to divisible hives containing frames, was that with thick top-bars the queen would not usually pass readily from one story to the other, and with thin top-bars there would be more or less sagging, and burr-combs between the sections; but with these box-hives this is to a great extent overcome. The queen passes readily from one story to the other, and in actual use there is much less burr-comb between the stories than I expected, or than one would think from reading the description of how they are made and used.

But now I wish to be frank about the matter, and mention one fault about them, and this is in regard to drone-comb. As no foundation is used in these hives, it is a more difficult matter to replace drone-comb that may be built in them with worker-comb than it is with frame hives, but it can be done, and I have many of them that are filled with solid worker-comb.

There are other minor faults about them which I will not take space to explain, for all I claim for them is that they will answer an excellent purpose for those who have not the money to spare to buy all frame hives, unless one has as many colonies in frame hives as he wishes, and desires no further increase. In such case, if running for comb honey and any method is practiced by which swarms, either natural or artificial, are hived on empty frames, or on frames containing only starters, then I consider these hives superior to any frame hive, for I believe fully as much honey with less work can be obtained from them.

Last year the season was, with one exception, the poorest ever known in my locality, but I took off 97 finisht sections of white honey from one of these box-hives. This was considerably more than any other colony in the yard produced, and there were about 75 colonies in frame hives in the same yard, some of which did not fill a dozen sections. But to be frank again, some in box-hives did no better. The one that outstript all the others was exceptionally strong at the commencement of the white honey-flow, and made no effort to swarm, but seemed to devote its entire energy to filling sections.

I have this kind of hive of various depths, but the most of them are about 7 inches. They are made from common 8-inch boards, but here the so-called 8-inch boards actually measure only about 7½ inches, and if the edges are drest or planed, it leaves them about 7 inches wide, which, for the use I make of them, is about the depth I prefer to have these hives; but whatever the depth, they are all otherwise the exact size of the 8-frame dovetailed hive.

The top-bars are made from common lath nailed a bee-space apart, and from the top edges of the hive. No bottom-bars are used. The bottom-boards and covers are just the same as those of the dovetailed hive. On account of there being no bottom-bars I expected, when two or more sections were used together, that there would be trouble on account of the combs in the upper story being built down and attacht to the top-bars of the lower story; but altho I have used them tiered up two and three stories high by themselves, and also tiered up in combination with frame hives, the combs in the upper stories have never been fastened enough to the top-bars below to loosen the combs in the upper stories when separating them, or to make any practical difficulty, and on this account, with all being so simply constructed, these hives possess in common with hives made on the same principle as the dovetailed, the great advantage of the tiering-up feature, and this tiering feature I consider to be by far the most practical improvement that has been or can be made in hives, since the frame hive was invented. No one who has not used large numbers of hives that did not possess it, and then large numbers that did, can fully appreciate the great advantages that the tiering-up feature has or admits of.

In my next I will describe my methods of using these hives, unless anything in favor of box-hives in the present advanced state of our pursuit is considered so much out of place that this is thrown into the waste-basket.

Southern Minnesota.

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Queenie Jeanette is the title of a pretty song in sheet music size, written by J. C. Wallenmeyer, a musical bee-keeper. The regular price is 40 cents, but to close out the copies we have left, we will mail them at 20 cents each, as long as they last. Better order at once, if you want a copy of this song.

CONVENTION PROCEEDINGS

Report of the Colorado State Convention.

[Continued from page 167.]

WINTERING BEES.

Mr. Porter—There is a universal complaint here about bees wintering in dovetailed hives with flat covers. I have here a frame made of pieces two inches deep to fit on the hive, the lower side covered with wire-cloth, and the upper side with burlap, and filled with planer-shavings. With an ordinary flat cover I have used cleats under each end of the cover, so as to carry off the moisture. This arrangement could be used in winter for that purpose, and in summer left on over a piece of cotton-cloth. The idea of the wire-cloth is to be able to use the frame in moving bees. One lot of my bees was half in the Wisconsin and half in the dovetailed hives. Those in Wisconsin hives came out in much better condition.

H. Rauchfuss—I have used a super of chaff. It does very well. But I believe it is even better to have a heavy burlap and a high cover. A flat cover is a great detriment.

F. Rauchfuss—Mr. Porter forgot to mention why he has holes bored in the sides of the frame, and covered with wire-cloth. With the ordinary rim of wire-cloth, the first thing the bees do is to rush up and obstruct it by clustering upon it, and it is possible a strong colony might be smothered in the heat of the day; but the holes at the sides of this frame would allow a current of air under the cluster.

H. Rauchfuss—I don't think a wire-screen is so good for moving bees as burlap. The bees crowd against the screen when they will not against burlap, and so it gives more ventilation.

Mr. Harris—Last spring I lost 30 percent. My bees were weak in the spring, owing to the hard winter. This is an important question.

Mr. Lyon—Four years ago I was using a common super. My loss didn't amount to anything as long as I used that, and I am going back to it. We don't always need it, but last winter we needed something of the kind. We want no sealed covers here. One yard at Longmont lost 50 percent on account of sealed covers.

Mr. Brock—For 23 years I have wintered my bees without losing over 10 percent; some years not over 2 percent. I use the old Langstroth hive with top 8 or 10 inches deep, large enough to rest on cleats below the top of the hive-body. I put on two thicknesses of gunny-sacking, and the cover over the sacking.

Mr. Porter—I have a number of Langstroth hives built the same way. They winter all right, but I could not be persuaded to make any more, for other reasons. I could use supers, but I want my supers in the house during the winter to fill with sections. I would rather go to the expense of having a substitute on the hives during the winter. These rims can be piled up when they are not wanted, and the wire will prevent the mice from entering them.

J. B. Adams—Last winter an apiary lost 50 percent one mile from mine. I lost only four colonies, of which two were queenless. When I first came here I put the hives in a board box and packt all around. About the first of May the rain and snow drifted in, and two or three days later the bees were swarming out, and I had to pull everything to pieces. Last winter I used oil-cloth sealed down, and put four to seven gunny-sacks on top of the oil-cloth. The bees came thru in good shape, and gave a good crop.

F. Rauchfuss—When did you examine your bees the last time that fall?

J. B. Adams—In October and November.

F. Rauchfuss—Then the covers were not sealed very tightly after you got thru.

J. B. Adams—You are right.

F. Rauchfuss—That saved your bees. They couldn't seal up the covers again that late.

J. B. Adams—The entrances were left wide open.

F. Rauchfuss—A full entrance with little cracks above gives sufficient ventilation to carry off all the moisture.

THIRD DAY.

Annual Report of the Secretary.

As this is the 20th annual meeting of our Association, I consider it appropriate to give a short retrospect of the history of our society, and some of the work accomplisht during that period.

Owing to the loss of all records previous to 1884, a new constitution and by-laws had to be framed that year. W. L. Porter was president, and Robert James secretary. The Association had then about 25 members. In 1885 Mr. Shiff was secretary, who, as far as can be found out, made the first attempt at gathering statistics of our industry in the State. He reported that there were about 500 bee-keepers, having about 6,000 colonies of bees. Two bee-keepers had 150 colonies each, and reported a crop of five tons of honey for that season.

It was estimated that more than 30 tons of honey, which went into the channels of trade, were produced in Colorado during 1887.

In 1888 J. M. Clark reported that from 10 to 12 tons of honey had been marketed in Denver.

Foul brood was not noticed among the bees in the State until 1886, and in 1888 it had spread along the Platte River, from Littleton near to Brighton, and from Morrison near to Smith's Lake.

In 1889, while J. M. Clark was secretary, statistics of the bees owned by members were taken with the following result: Colonies, spring count, 2,247; increase, 931—total, 3,178. Yield of comb honey, 130,000 pounds.

The Association was then composed of 38 members. In 1889 the foul brood law was past by the legislature.

In 1890 30 pounds of comb honey per colony was reported as the average for the State that season.

In 1891 a meeting was held in Arvada.

In 1892 one meeting was held in Golden and one in Loveland. A premium list to be used at fairs was adopted.

In 1893 a set of rules for grading comb honey was adopted. Members of the Association contributed honey for an exhibit at the World's Fair in Chicago.

In 1894 the number of colonies of bees in the State was estimated at 60,000. An exhibition of apiarian products was held at the Gettysburg Building.

In 1895 the membership fee was reduced from $1.00 to 50 cents.

In 1896 reduced rates on bee-supplies were secured for the members of the Association, and a committee on organization was appointed. A great loss of bees was reported in the spring of 1896.

In 1897 the committee on legislation reported that there was a law on adulteration in existence in the State.

A law was past to have the proceedings of the State Bee-Keepers' Association incorporated with the Horticultural Report. A law preventing the spraying of fruit-trees while in bloom was past. Samples of honey were bought to be analyzed.

Statistics on bee-culture were gathered with the following results: 14 counties reported 35,306 colonies (which is not more than half the total number in the State). The average value is $3.36, and the average percent of increase 20. The average yield per colony was 26 pounds; the average price 10 cents a pound. Foul brood existed in eight counties. Six local societies were in existence.

In 1898 the constitution and by-laws were amended; 43 members reported 5,648 colonies, and had produced 147,478 pounds of comb honey and 105,878 pounds of extracted. A new set of grading rules was adopted.

In 1899 some more amendments to the constitution and by-laws were made. Circulars were sent out to over 200 bee-keepers, soliciting for membership; 500 copies of the constitution and by-laws, and 1,000 copies of the foul-brood law, were ordered printed, and part of them distributed among the bee-keepers. At the present time there are 217 names of bee-keepers enrolled on the books of the Association, 165 of which are in good standing.

All members were supplied by the Association with the numbers of the American Bee Journal containing the last convention report, as well as with the copy of the Bee-Keepers' Review containing a half-tone of sections illustrating our grading rules.

The honey crop of Colorado for the past season is estimated at 1,000,000 pounds of comb honey and 200,000 pounds of extracted. There were 22 carloads of 30,000 pounds each shipt out of the State. Prices ranged between 10 and 11 cents per pound for comb honey, and 6 and 7 cents for extracted.

FRANK RAUCHFUSS, *Sec.*

The report was adopted and placed on the records of the Association.

Mr. Harris—I think a committee should be appointed to insist that the report of our proceedings should be publisht together with the report of the Board of Horticulture.

Mr. Rhodes—I don't know how our report can be publisht as long as one has the power to cut it down.

At this juncture some members of the Board of Horticulture came in, and David Brothers, President of the Board of Horticulture, spoke at some length, in substance as follows:

"I think our interests are identical. The main body thinks so. We come bearing the olive branch. Anything the Board can do for you, we will do—nine out of ten of us, anyhow. It is not right for your report to be cut all to pieces. I think the report should be printed just as it leaves your hands."

A committee consisting of Messrs. Rhodes, Harris and H. Rauchfuss was appointed to confer with a committee from the Board of Horticulture on an arrangement for holding the next meetings of the Board and the Association jointly to such an extent as would be satisfactory to both.

Pres. Aikin had not prepared an annual address, but spoke in substance as follows:

A Statement by the President.

To think we have had an organization for 20 years, increasing in interest, efficiency, and membership (now 217), is certainly very encouraging. That this was accomplisht without work is not true. Those on committees know this requires work, foresight, studying of human nature, and intense thought. I have spent practically days and days in thinking, planning, and writing. I did it with pure motives. I spent of my money and time; tho perhaps they could be called selfish motives, for I wanted to see the organization stand high, and the upbuilding of the organization is an honor to the executive board.

Then, we are not only generally but individually benefited. Largely because of my position, and also because of my writing in the bee-papers, I have become known all over the country as a producer, and so it has been a help to me in my private business. And yet, your prosperity is my prosperity. Whenever we undertake to break down the business of a neighbor we break down our own. As a community we are trying to get people here. Who is so selfish as not to want people in our business? Each one has just as good a right as I have. It would look unfair to come right beside me and reap the benefits of my preliminary work, but you have a right to come into my territory. We should ask ourselves what we would do if we were in that man's place.

As to the position of the Association, 217 is not half what it ought to be. Any one who buys honey knows that there are those all around who don't know the first principles of honey-production. A lady observed me fixing up supers and separators and taking the honey off, and said the ideas gained paid her well. I bought her honey, and it was largely improved by separators, but the grading was very unsatisfactory, and it cost me something. The Association with a large membership and a small fee would enable the executive to reach those bee-keepers who overstock, and who damage the reputation of goods, and could publish the proceedings, and put them in the hands of every member.

We don't expect members to be here. The money for membership comes back in many ways. The effect of the work of our marketing organization has put money in the pockets of our bee-keepers all over the State, causing them to get 15 to 20 percent more than they otherwise would have gotten. We know this to be a fact.

I want to see the Association prosper, but I have other burdens, in lines that most of you know nothing about, and I want to see the executive go into other hands.

R. C. AIKIN.

Mr. Harris offered a resolution thanking the officers for the efforts put forth for the Association for the past two years, which was carried.

A motion that Dr. Headden, Prof. Gillette and E. R. Root be made honorary members was carried unanimously by a standing vote.

QUEENS—BREEDING, ETC.

Mr. Harris—We are not careful enough in breeding to see where our stock comes from. The pedigree is not stated, and it should be. The matter of good, prolific queens is of the greatest importance. Proper stock comes first, then proper condition and handling, and then we are ready to produce comb or other honey. Stock-raisers of all sorts, if they are up in their business, when buying, investigate the pedigree. I think the time will come when we will investigate more closely.

H. Rauchfuss—It is not all in prolificness. There is more in longevity of the bees. I have noticed many colonies with a scarcity of brood and an abundance of bees, and others the reverse. We have bred from the former with excellent success. Another item is that they should not be inclined to swarm. I had one colony so weak that the most brood they had could have been put in five frames. That colony was on scales, and outstript any colony in the yard. It has done so for six years. Once it gathered 18 pounds of honey in one day and stored it in extracting-combs. Then, I have found a weak colony in the spring and thought I would kill the queen, but instead have given her to a queenless strong colony, and it was astonishing how much brood they would have. Still, if I had left that queen there, next spring her colony would have been weak again, as the fault was in the wintering of her bees. I have reared queens from that queen, which did not winter well, and then selected again with reference to wintering, with good success. I don't care whether queens are hybrids or not. I have had big-priced queens that didn't winter well, tho they had lots of brood.

Mr. Harris—Supposing we have prolific queens of that long-lived stock—are we not on the right track?

Mr. Root—We had what we called a red-clover queen. Her colony gave two or three times as much honey as the others. As robbers they excelled all, and were hardy. We kept her four years. Her daughters almost duplicated her, but we haven't found her equal. Mr. Doolittle got one of her queens that he thinks remarkable. Very recently we had an order for a $25 queen, and we had to explain that we did not have such a queen in stock. Then the man wanted a $10 queen, but we had none. I have offered $100 for a queen, and the result of that offer has been that a good many have discovered good points in their queens. We succeeded in getting a queen from Mr. Alley, which he said was remarkable, and in the summer he wanted her again, and we let her go. We found out afterward by her progeny that she was remarkable. The tendency has been to produce five-banded bees, and it is very easy to do so by selecting with reference to color. I think now the tendency is toward business qualities. I don't know that bee-keepers would care much for hybrid queens. One difficulty about a $100 queen is that she will be old before she can be found out, and it is hard to get daughters that will turn out in the same way. A good practice is to give drone-comb to a drone-laying queen whose record has been good. We think we have a little fortune when we have such a queen. A great many queens are not good after journeying thru the mails. That is one trouble with imported queens. I would urge bee-keepers to rear their own queens.

F. Rauchfuss—Is it your experience that the majority of queen-breeders are also honey-producers?

Mr. Root—Generally honey is a side-issue with queen-breeders, and often not even a side-issue.

F. Rauchfuss—I think we should place our orders with those who pay some attention to the honey-producing qualities of their bees.

H. Rauchfuss—I would send a queen to a queen-breeder to breed from.

Mr. Root—Why not requeen your own apiary with queens of your own rearing?

H. Rauchfuss—I can make more money producing honey than in rearing queens, as the springs are late, and we need all the bees to build up.

Mr. Porter—Perhaps the queens reared elsewhere are not used to handling large crops, and it might be better in the long run to rear our own queens partly!

Mr. Cornelius—I wish to ask Mr. Root if he rears queens by the Doolittle method?

Mr. Root—Yes. We take advantage of the swarming-impulse.

H. Rauchfuss—That is just why we can't rear our own queens in any quantity. The swarms come too late.

Mr. Root—Feed.

H. Rauchfuss—We can't feed to bring on the swarming-impulse here. We often have snow in May, and I have seen frost in June.

Mr. Root—Locality again. What do you consider the best time to requeen?

H. Rauchfuss—I like the queen to begin laying at the beginning of the flow. I have reared some queens myself, and find that the best time.

Mr. Martin—Has any one brought out different qualities of capping the combs?

H. Rauchfuss—When I raise up the oil-cloth and see wax instead of propolis, I mark that colony a wax-producer. I have a number so markt. That is all the guide I need. Those that produce plenty of wax gather the honey. They need plenty of honey to produce the wax. As a rule, they also produce whiter comb, because they don't gather much propolis.

Mr. Cornelius—I think Mr. Martin refers to the fault of bringing the cappings close to the honey.

H. Rauchfuss—I have one such colony. But usually in rearing queens from such wax-producing colonies, that problem solves itself, as they do not cap their combs that way.

Pres. Aikin—In the 70's I was located where I got only fall honey, coming the last half of August and in September. I had all summer to get the colonies bred up. I almost felt like saying I had a non-swarming strain of bees. But white clover had been increasing, with a little basswood, and then I had lots of trouble with swarming. Swarming depends so upon the conditions, that I have always taken accounts of non-swarming bees with a grain of salt. And so it is with other characteristics. One may have a good queen, and she may have weak progeny. One may have a good queen, but her hive was subjected to different conditions, and consequently her bees did not winter well. She may be the best queen. Many of the best queens are sacrificed because of peculiar conditions. I am not combating the ideas advanced. But there is a tendency to drop into a particular line. Select a vigorous queen, and then don't discard a good queen because conditions don't favor her. Ordinarily I prefer to rear my own queens. It is not all in the queen, and not all in the conditions. Don't run wild over the idea you can just get a good queen and then get everything.

Mr. Martin—I have noticed a few colonies year after year that were not satisfactory for comb honey.

Pres. Aikin—Suppose one queen has laid freely at a time when she will have bees hatcht at the right time to take advantage of the flow, and the colony of another queen has just as many bees at that time, but younger; which queen is better? Twenty years ago I had a colony whose queen failed in the spring. I introduced a queen-cell and gave brood, but it was hard to get them requeened, and I lost two or three queens before I succeeded. That colony, when the flow was on, was queenless, and had few bees. But it was never hopelessly queenless, and the bees were old. They had nothing to do but to gather honey, and they did well.

Mr. Root—I realize that a queen should be judged by the performance of her daughters under various conditions. Then we get a stock that is ahead.

H. Rauchfuss—I requeened all of one row of hives with the progeny of one queen. They all wintered well, and not one of them gave less than four supers of honey. Other rows did not do so well. It was because all that row were daughters of a good queen.

(Concluded next week.)

THE AFTERTHOUGHT

The "Old Reliable" seen thru New and Unreliable Glasses.
By E. E. HASTY, Richards, Ohio.

TWO BAD YEARS TOGETHER SPOIL QUEENS.

J. W. George, page 76, may be right, that two bad, idle years, with no surplus and no swarming, spoils all the queens, but somehow I doubt it a little. If the queens were kept sufficiently idle, and sufficiently comfortable, they'd last seven years, I believe—and be serviceable to some extent the sixth year. (Don't you risk any money on it.)

UNCLE FRANK AND HIS "FAITH CURE."

Uncle Frank, it's a new sort of faith cure that you are treating us to, page 77—and a real nice kind. You have all the faith, and all the "animiles" get well. Please, Uncle, enlarge your business a little; and next time I get to peel-ing and eating young raspberry shoots have it cure me of my troublesome oblivious and forgetful spells—that's a good Uncle.

IMPORTANCE OF DRONE PARENTAGE.

I shall have to keep on barking, I plainly see, about the important matter of drone parentage. C. P. Dadant, in his otherwise excellent article, page 82, leaves out the few words for lack of which the beginner following directions will be somewhat likely to get more of his queens mated with undesired drones than he would if he let the whole matter run itself. Drone parentage is not a matter of numbers, but of *readiness*. A dozen drones ready count immensely more than five hundred that need a few minutes to get ready. By preventing drone-rearing in a hive we *greatly increase the readiness* of the few they rear in spite of us. By securing the rearing of many hundreds of drones in a favored colony, we *decrease their readiness*. The few words I would have Mr. Dadant add are: Select drones should be secured homes a few in a place, if they are to have a fair chance in the struggle for parentage.

BEE-CAVES AND THEIR ROOFS.

I think E. D. Ochsner has given us a valuable hint about roofing bee-caves. *One* foot of sand and two feet of leaves better than three or four feet of sand—which will sooner or later cave the whole thing in by its own weight. Presumably chaff would do just as well as leaves where it is handier—ah, no, not quite as well; for chaff will entice and breed mice much the worse. I take it that the great besetting sin of bee-caves, take them as they run (they do run, gentle reader, into the hill) is leaky roof. Any old rattle-top of warpt and split boards seems good enough for a bee-cave, when it really deserves as good a roof as the owner's kitchen. The apiary in front of which he stands so respectfully businesslike seems to be the much maligned rank and file, with medium spacing. What signs has he got posted on that shanty? No admittance? Beware of the dog? Don't spit on the floor? or all three? Page 81.

APIARY BASEMENTS, ETC.—SOME OF OLD GRIMES' IDEAS.

How doctors do disagree! Our O. G. says never on any account face an apiary basement to the north; while the last man, only the page before, recommends the north facing of his bee-cave. Heat doesn't get in so bad in the spring—certainly a very comprehensible advantage. But the Grimes arrangement *in full* keeps the spring sun off all right; so there is no real conflict. But I'm not going to subscribe to the Grimes honey-tank down in a basement. Better have it where there will only be a light roof between the surface of the honey and the sun. Separate structures on a side-hill; else a lean-to next the Grimes building. This matter is rather important; and the mere sentiment of having everything snug as a bug in a rug in one big cubical building should yield, I think. The Grimes shanty, made in sections to take down with a wrench, is tip-top for perambulating out-apiaries. Page 82.

SELF-SEALING HONEY-PAILS.

Self-sealing honey-pails bad because we can't wash 'em and drain the water out properly. Rusting ensues, and damage to the next lot of honey put within. Chance for an inventor. Page 84.

TREATMENT OF EXTRACTED HONEY.

I don't know how much there may be in it, but perhaps a whole bushel—for which we must thank H. Rauchfuss, of the Colorados. The idea is to heat all honey immediately upon being extracted. Retards granulation somewhat, and prevents foaming when the honey is reliquefied, to the customer's peace and confidence of mind. If it will prevent foaming I think it will also retard deterioration with age, which is a great matter with the poorer grades of honey. The best honey goes thru the next summer with but little damage; while poorer grades, quite tolerable at first, are apt to be nearly spoilt before the next winter. Perhaps a a light is dawning as to how to obviate this difficulty. Page 85.

A LITTLE DOUBTFUL ABOUT EUCALYPTI.

We are prepared to believe that the eucalypti are healthy trees to have about, and that eucalyptus honey has curative properties; but nevertheless we must hesitate a bit about accepting all that Dr. McLean in his enthusiasm tells us on page 89. That a Light Brigade of 600 (million) grasshoppers would be halted in their charge 40 feet away—well, our faith in that respect isn't exactly like an anchor to the soul. If all he means is that resident grasshoppers edge away out of the smell of eucalyptus, may be we can go that; but may be even that is a little like the power of ash leaves over rattlesnakes.

BEES WORKING AT LONG DISTANCES.

I think Ira Barber's contribution to our knowledge about bees working at long distances somewhat valuable. That it largely contradicts prevalent impressions makes it more so. Page 89.

"BEE-ING IT" ELSEWHERE—FOUL-BROOD SCHEME.

And so Mr. Johnson would like to go to our newest island possession, Tutuila, and "bee it." Typical American. Feel that way myself. But his scheme of foul brood as a "varmint" that eats the holes so characteristically seen in the cappings, escapes thru the holes, and disappears; hope he'll take that scheme with him when he goes, and drop it in the mid-Pacific. Page 95.

CUBA AND ITS FOUL-BROOD SCOURGE.

Rockenback's painting of Cuba, rotten from end to end with foul brood, and not a man in it capable of curing a colony by any method whatever, is rather unpleasant and Dante-esque. Cuba not likely to demoralize our honey markets much just now, if that's correct. Were the painting entirely true, without any exaggeration, both disease and bees would soon die together, and Cuba would soon be safe virgin territory in which to begin apiculture. This is not likely to happen, more's the pity; so the truth is probably *worse* than the picture. Page 99.

WARFARE AGAINST FENCES AND PLAIN SECTIONS.

Mr. F. L. Thompson seems to be getting into something like a warfare against fences and new styles of sections; both his practice and his theory finding nothing of special value in them. If it's well to be "zealously affected in a good thing" I guess it's also well to be zealously affected in a fight against novelties that are humbugs. Page 106.

QUEENS THAT EXCEL GREATLY.

McIntyre will make us all want one of his queens if he doesn't let up. He thinks that when a queen greatly excels among 600 others it means a deal more than pre-eminence in a small apiary. And sure enough it may, *sometimes*. But the bigger the apiary the wider the scope for that quiet, silent, sneak-thieving which seems to be the real cause of the seeming excellence in many cases. You see, I'm soreheaded on this point, as I have been trying for a superior strain for many years, with scant results to show for it. The strain which I have favored for several years swarms a little worse than the others, which is "pizen." Sometimes, I think, a queen gets an undeserved reputation because her bees are *hospitable*, and will receive kindly lost bees (mainly young and valuable) from all the colonies round about; her hive being so located as to be the most prominent and eligible one. Marvellous wintering strains are almost always of this sort, I take it. Page 106.

THAT COMMISSION-SHARK CASE.

Mr. Theilmann fought a noble fight; and doubtless he thought that the Union might wisely have contributed some cash toward showing the *possibility* of bringing one Chicago commission-shark up on justice's deck. And doubtless the Union officers thought that a Supreme Court decision whether one particular sale was a sale outright or a sale on commission would not be of sufficiently general application to justify putting their scanty funds into it. Let each party charitably try to believe the others did the very best they knew. Page 83.

INTRODUCING YOUNG QUEENS.

That a *really* young queen, soft and not yet fully colored, is always received kindly everywhere, and does not awaken antagonism until beginning to "put on the airs" (or at least the smells) of queenhood—well, I guess it's a fact; but it was not in my mind as it ought to have been, and as I hope it will be now, thanks to page 106.

THE AIR IN A QUEEN-CELL.

I think Mr. Bingham, page 109, is entirely wrong in supposing a queen is developt in bad air. Reliable experiments show that the amount of air that will in time pass thru a brick or a stone is quite surprising. And the wall of a queen-cell (made purposely ot porous texture in its basal half) is not going to have air much poorer on one side than on the other.

AMERICAN BEE JOURNAL.
ESTABLISHT IN 1861 OLDEST BEE-PAPER IN AMERICA
DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS

PUBLISHT WEEKLY BY
GEORGE W. YORK & COMPANY,
118 Michigan Street, Chicago, Ill.

[Entered at the Post-Office at Chicago as Second-Class Mail-Matter.]

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IMPORTANT NOTICES:

The Subscription Price of this journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "Dec00" on your label shows that it is paid to the end of December, 1900.

Subscription Receipts.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows you that the money has been received and duly credited.

Advertising Rates will be given upon application.

VOL. 40. MARCH 22, 1900. NO. 12.

EDITORIAL COMMENTS

NOTE—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

The Brosius Pure-Food Bill.—Rev. E. T. Abbott, the representative of bee-keepers' interests at the recent Pure-Food Congress, in Washington, wrote us March 16, that the revised Brosius Bill will be before both houses of congress in a short time. He says:

> "Urge your readers to write at once to their congressman, pressing upon him the importance of supporting the Brosius Bill as revised by the last Pure-Food Congress. Also urge them to be on their guard against any attempt to side-track this bill in the interest of one which is backt by only a few individuals. 'Pass the revised Brosius Bill,' is now our watchword."

We trust our readers will quickly act on Mr. Abbott's suggestion. The Brosius Bill should be past during this session of congress, and will be if every lover of pure food will do his full duty.

New York Spraying Law in Danger.—Mr. Frank I. Clark, of Cayuga Co., N. Y., has sent us a copy of a bill introduced into the legislature of that State, amending the spraying law which allows experiments at experiment stations and by private persons. Mr. Clark urges us to request that every bee-keeper in New York State write at once to their representatives in the senate and assembly to vote against the passage of the bill. As the legislature will adjourn about April 1, it will likely be past or defeated before that time. Better write *at once*.

Editor Root, referring to this subject in Gleanings in Bee-Culture, says:

> While the bill is innocent enough on its face, yet the measure was framed by the opposers of the spraying law, who, having been unsuccessful in having this same law repealed at the last session of the legislature, are now taking this apparently innocent but nevertheless effective method of taking the very teeth out of the law. Mr. Marks says that the experiment stations, or the experimenters, have none of them askt for such an amendment; and he desires all the bee-keepers of New York to write to their senators and representatives at once to protest vigorously against the passage of the amendment under consideration.
>
> When I was in Colorado I understood that a similar attempt was made to practically kill the spraying law in Colorado; and it behooves the bee-keepers of the different States having such laws to be on the watch, because there is a lot of ignorant fruit-men who are up to just such tactics as this.

Organization Among Bee-Keepers.—On another page in this issue Mr. F. Greiner—one of the leading bee-keepers and writers on both bee-culture and general agricultural topics in the State of New York—presents a ringing article that we hope every one of our subscribers will read very carefully. Not only that each shall read it, but the next thing he does after reading it, send his dollar for membership dues to Hon. Eugene Secor, Forest City, Iowa, and become a member of the National Bee-Keepers' Association right away, if not already a member.

Every bee-keeper in the United States ought to become a member of the National organization, at least. Everything and everybody are now working harmoniously along the apicultural line. This is just as it should be. It is a splendid time to unite in a strong organization, such as this or any other country has never seen. Mr. Greiner has made a grand plea for this very thing, and we wish simply to "second his motion."

Shall there not be "falling into line" among bee-keepers all over our broad land, until our National organization may be all that Mr. Greiner has so graphically outlined?

If it is more convenient for our our readers to send their membership dues to us, we will forward them to Mr. Secor, who will then promptly mail a receipt to each. Now for a host of volunteers for the Grand Army of Bee-Keepers!

Adulteration of Honey is bad enough at the best, and any of it is too much, but many times it happens that the matter is greatly exaggerated. It is not an uncommon thing to see in the foreign papers a railing accusation against all honey sent across the ocean from America, and even well-informed Americans are under the impression that when honey from this country lands in Germany or some other European country, only a small part of it ever saw the inside of a bee-hive. A foreign letter in the Country Gentleman has the following sentence:

> "I regret to see that complaints are rife as to the importation of adulterated honey, and need hardly say where the complaint chiefly lies."

It requires no great stretch to interpret that as meaning: "It is too bad, and I wish it were not so, but adulterated honey in these foreign countries comes chiefly from America."

Pertinent to the subject is the testimony of H. Guehler, of Berlin. He is an expert honey-dealer, carrying on an immense business with 1,600 places of sale in Berlin and elsewhere, handling perhaps more honey than any other man living. He says much of the American honey is prepared without intelligence and without care, and on that account is considered adulterated. But he says in the Deutsche Ill.

Bztg., that he has analyzed a great number of samples of domestic and foreign honey, and the amount of adulterated honey that is found in bulk is very small indeed. In reality he never found but three specimens adulterated in all that he ever analyzed, one was German, one was Hungarian, and one American.

The probability is that those who adulterate honey could hardly afford to adulterate it and export it at the low prices. They can make more money to put it up in fancy packages of small size and sell it at a high price.

Number of Dead Bees on a Cellar-Bottom.—"Figures can not lie," it is said, but somehow they do not always tell the same story when manipulated by two different persons. Editor Root, in Gleanings in Bee-Culture, said, "75 or 100 colonies in a cellar 10x10 may furnish dead bees before spring sufficient to cover the floor an inch or two in depth." With that as a basis, Mr. Taylor figured in the Bee-Keepers' Review that "colonies of bees in a cellar may lose anywhere from 2½ to 5 quarts of superannuated bees from a colony during the winter."

Then Editor Root fell to figuring, and made out that instead of 2½ to 5, the highest loss could only be 1 3/5 quarts per colony, or less than one-third as many as Mr. Taylor had figured! The principal difference seems to come from the different ways in which the two men had the bees packt in the cellar. Mr. Taylor seems to have had his colonies in some way suspended from above, leaving the entire floor to be covered with bees, while Mr. Root placed his upon stands, the 25 stands occupying the greater part of the cellar-bottom, leaving the balance to be covered with bees.

Incidentally, Mr. Root makes an interesting contribution to apicultural lore by giving the number of dead bees in a quart as 2,664. This is much less than the number of living bees in a quart, which is 3,200, according to the book "A B C of Bee-Culture."

Bees and Fruit-Growing.—At the Leland Stanford University, in California, they have what they call a lecture course for agriculturists. Among the lecturers and lectures Feb. 21, was Prof. O. P. Jenkins, on "Bees and Fruit-Growing." Mr. A. B. Shearer, one of our subscribers located there, sent us a copy of the San Jose Daily Mercury, which speaks as follows of Prof. Jenkins' lecture to the students:

> Prof. O. P. Jenkins is not a stranger to the orchardists of this county, and his lecture yesterday, on "Bees and Fruit-Growing," was the renewing of an acquaintance that was as mutually agreeable as it has been pleasant in the past. The practical application of his lecture was made plainly apparent.
>
> In opening, Prof. Jenkins told of some of the rudimentary principles regarding the pollenization of plants. "The more," said he, "we can find out about the limits and laws that control the life of the plant the better fitted we are to raise the plant."
>
> In explaining the pollenization of the flower he showed a map displaying the parts of the flower and picturing the pistils and the ovaries at their root. It is found of absolute necessity that the ovule of one plant be brought into contact with the ovule of another plant. On the top of the pistil is a stigmatic surface where the pollen lodges. It sprouts and pushes down to the ovule below a filament, sometimes three or four inches long, and thus is the fertilization accomplisht. Some flowers have both pistils and stamens, while in others one plant bears a staminate flower and another a pistilate flower.
>
> "How is the pollen carried from the staminate to the pistilate flower? By three ways chiefly—the wind, insects, and birds. Those carried by the wind have to be adapted to the wind's ways. Flowers that fertilize in this manner produce and scatter a large amount of pollen, tho one grain only is needed to fertilize the flower."
>
> He described the formation of flowers in which the bees operate as pollen-carriers, and showed how bees become useful agents in the work of fertilization, and how thus the plants make use of the bees.
>
> "The type of most fruit flowers," said he, "is the same; they have both stamen and petals in the same flower. Below is a disc which contains sweet fluid that the bees desire. Contrary to general belief, the wind can not fertilize these flowers. It has been known for some time that some varieties of trees do better if they are planted in with other varieties, so that cross-fertilization can take place. It is this way with the almond."
>
> He explained the valuable experiments that were conducted by Prof. Waite, of the Department of Agriculture, in the cross-pollenization of the pear. By these experiments he ascertained that some varieties were produced by cross-pollenization and others by self-pollenization. In all cases, however, it was ascertained that cross-pollenization always produced the best fruit.
>
> In his judgment, the reason why many orchards do not bear is because the flowers are not properly fertilized.
>
> Of the many insects that visit flowers some are more adapted for pollen-carriers than others, and the bee is found to be one of the best. With the pear more than the apple, the bee is found to be the main fertilizer. From experiments tried it has been found where there are large numbers of fruit-trees the bees are insufficient in number many times to do the pollenizing.
>
> "I would think it advisable," said he, "in this valley, where there are so many fruit-trees, for bees to be kept not for their profit, but the more completely to do the work of fertilizing our fruit-flowers."

We move a vote of thanks to Prof. Jenkins for his clear putting of the truth. Mr. Shearer rather forcefully, tho truly, put it when he said in a note accompanying the clipping:

> "See, we are beginning to get it hammered into them by these learned men—men they must recognize. Yet they will set out the poison."

The Weekly Budget

Mr. Geo. C. Hamburgh, of Pierce Co., Wash., has sent us a sample of his 5½-inch alighting-board which he attaches to the hive by a piece of tin tackt on top at each end of the board. It is easy to put on and off, requiring only two tacks. When on it slants downward a trifle.

* * * * *

Mr. W. A. Pryal, of Alameda Co., Calif., writes us March 8:

> "We have been having some good old-fashioned rains lately. I am pleased to know that the south end of the State is getting a wetting at last. We have been having all we require in this portion. I never saw the grass and other vegetation looking better than it now is. Many kinds of fruit-trees are in bloom. Garden flowers are out in profusion."

* * * * *

Mr. Harry Howe, Secretary of the Cuban Bee-Keepers' Association, wrote us as follows, March 12:

> Friend York:—I wish to correct one point in the article on D. H. Coggshall in a recent issue of your paper, in regard to the 4-frame extractor. The one built by D. H. Coggshall took the frames in the usual four-sided form, with the upright shaft in the center of the can. I made the first drawing of the other kind with the frames in pairs, and W. L. Coggshall had two made by the late Miles Morton. These were used in the apiaries of W. L. Coggshall for two years before D. H. Coggshall had his first one made. This was made from the pattern which he borrowed of W. L. Coggshall.
>
> Bees are swarming here now. Foul brood is really much worse than has been described in the papers. Nearly every apiary in Cuba has it. I have gone into partnership with a Cuban who owns about 7,000 acres of fine honey-country to put in bee-ranches to the tune of 2,000 colonies. This gives me entire control of my bee-range.
>
> Harry Howe.

QUESTIONS AND ANSWERS.

Dr C.C. MILLER

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Hives in the Shade or Sun.

Which do you think is the better, to set hives under trees, or out in the hot sun? NEBRASKA.

ANSWER.—I would very much rather have my bees in the shade of trees, both for the comfort of the bees and for the comfort of the bee-keeper; and I suppose the same rule will hold in your State.

◆

Queen-Breeders' Terms—Veil Injuring Eyes, Etc.

1. Looking over queen-breeders' advertisements, I notice such terms as "golden Italian," "dark Italian," "3-band Italian," and "5-band Italian." Now, which one is *pure* Italian?

2. I believe wearing a bee-veil is injuring my eyes. The veil is black tulle. How wide should the hat brim be so as not to injure the eyes?

3. What do you think of the Johansen extension hive, described on page 129?" MISSOURI.

ANSWERS.—1. They may all be pure. Dark Italian and 3-banded are terms applied to those that come direct from Italy; golden Italian and 5-banded after they have been changed in this country. I believe G. M. Doolittle thinks none of them are pure because not of fixt characteristics.

2. You can probably have nothing better than black tulle. If the veil is attacht to the edge of the brim, it makes little difference how wide the brim is, the difference being in favor of the narrower brim, for you can see a little better with the veil close to your eyes than when farther away. But the better way is to have a wide brim, say 8 inches, and then have the veil sewed on as close to the face as possible without having the veil touch the face. Then the outer part of the brim shades the veil; for the sun shining on the veil makes it hard on the eyes. Of course the tulle should be the genuine article, of fine silk.

3. It seems to suit the inventor well: whether others will see advantages enough in it to make them adopt it, remains to be seen.

◆

Some Actions of Bees—Alfalfa as Stock Forage.

DR. MILLER:—I think I can help you to answer "Massachusett's" questions, on page 6. I will first state what I have seen, and then draw conclusions.

Some years ago I set some combs out at the west of the apiary for the bees to clean, and after they had gotten well to work I concluded to move the hives of combs to a more sheltered place, and so carried them to the north of the apiary. The bees were continually leaving these hives while I was carrying them, and after I had set them in the new place, and it amused me to see them all start directly east, as they should have done from the old stand. Some of them would fly 10 steps and others nearly as far as I could see them, then they would circle a little and turn towards home.

Again, last summer, I carelessly left a hive of combs just extracted, near the door, just east of the apiary, and they were soon covered with bees. I carried the hive away from the house to the southwest of the apiary, and the bees all started west on leaving the hive. The wind was pretty strong from the west so they could make but little headway against it, but they would struggle a short distance and then turn to the northeast for home.

If you "want more reliable testimony," I hope you will try it yourself in the spring.

The bees evidently did not realize that they had been carried since alighting on the combs, and so started in the directions in which they supposed home was, till they saw a familiar object. Their ability to recognize objects is doubtless very acute.

I notice you did not entirely endorse the story of a cat's finding its way home. I am glad of it, for it is all bosh. A few years ago a certain bee-keeper, in trying to prove that mankind only had reason, wrote some wonderful stories about cats, but bees and cats have no more a sixth sense than we have. To be sure, one will sometimes, by chance, start in the right direction, and so find home, and these cases are exaggerated and reported.

Regarding "New York's" question on the same page, I will say that alfalfa does frequently kill cattle, and that, too, when they are accustomed to eating it, especially when it is young and tender, or when wet with rain or dew, or by drinking immediately after eating. My son lost two on this place last summer, and several others bloated badly, but were discovered in time to save them. I have had no experience with sheep, but am told that they are more subject to bloat than cattle. It is not usually pastured except the old stubble in the fall. It does not produce honey in this locality, but where I was in Colorado it furnisht nearly all the surplus. I. W. BECKWITH.

Fremont Co., Wyo., Jan. 10.

ANSWER.—This is interesting, and shows it is not well to be too skeptical when so many close observers are on hand with "reliable testimony." The point emphasized is that when bees are freed after being carried a distance, they fly in the same direction they would have done if no moving had taken place.

◆

Who Should Pay the Freight?—Wax-Worms.

1. Do you think it is right for the producer to pay transportation charges on what he has to sell, and also what he has to buy? To illustrate: Suppose I have some honey and wax to sell. I send it to some supply dealer to exchange for his goods. I have to pay freight both ways—on his goods and also on mine. Now be candid, and give an unprejudiced answer.

2. I also send a clipping from a country paper. Please give your opinion on the kind of bee-worms the writer had reference to. The clipping reads as follows:

> WEAK COLONY OF BEES.—When a colony of bees is found at the close of the season light in weight, it is generally better policy to destroy it than to try to keep it thru the winter. The weak colony is probably already infested with bee-worms, and the sooner the propagation of these is arrested the better, as their increase makes greater danger for all the colonies next year. If the weak colony is destitute of a queen its bees may be transferred to a larger and stronger colony with advantage to both, tho in some cases more food must be provided for the strong colony after this addition, to enable it to winter without loss. ILL.

ANSWERS.—1. Whether it be that the editor prefers to have the question as to who shall pay freights answered by one who is not prejudiced in favor of the supply dealer, or whether it be that with a wicked chuckle he sends the question to me as a poser—in any case he has turned it over to me, and I can hardly say the answer is difficult. It is simply a matter of fairness, agreement, and convenience.

Suppose I sell honey to a dealer. He says to me, "I can get all the honey I want of the same grade as yours, delivered here for 15 cents a pound." I say to him, "But I don't want to pay the freight, and I don't think I ought to." "All right," he replies, "I'm willing to pay the freight, but as it will cost half a cent a pound to get it here, I can afford only 14½ cents a pound if I pay the freight." Then suppose I want to buy a thousand sections. He asks for them $3.50. But I tell him I want him to pay the freight. "Certainly. But the freight to your place will be 25 cents, so if I pay the freight I shall have to charge $3.75 for the sections." Certainly there can be nothing that I see wrong in that. So I make both trades, selling honey at 14½, and buying sections at $3.75, and he pays freight both ways. Or I may sell honey at 15, buy sections at $3.50, and pay freight on both.

I think you will find the dealer willing to pay freight one or both ways, but certainly you cannot expect the price to be the same whether he or you should pay freight.

2. The item is not nearly so wide of the mark as many an item written by those who know little or nothing about bees. The "bee-worms" mentioned are no doubt the common wax-worms. In these days of Italians, one smiles at the great danger from the propagation of "bee-worms" to "all the colonies next year."

Root's Column

FIRST RUN
OHIO
MAPLE SUGAR
—AND—
SYRUP.

CROP OF 1900.

DO YOU KNOW that Ohio produces the finest Maple Sugar and Syrup to be had anywhere?

DO YOU KNOW that, according to the pure-food laws of this State, every gallon of syrup put up here must have the name of the producer on the label, and there is a heavy fine for adulteration?

THE RESULT is that Ohio Maple can be depended on every time. Do you want something fine, something that will please all of your family? then order some of our Maple Syrup at once. In one-gallon cans, $1.00; same in lots of 10 one-gallon cans at 90 cents per gallon; 25 one-gallon cans at 85 cents per gallon.

SUGAR ✠ ✠ ✠

New Maple Sugar, No. 1, at 10 cents per pound; No. 2, at 9 cts. per pound; 50 pound lots at ½ cent per pound less; barrel lots of about 200 pounds at one cent per pound less.

ORDER AT ONCE and get the first run, which is something fine.

IF YOU EXPECT to send an order later for bee-supplies and want some sugar or syrup reserved for you, send along your order and make this request.

The A. I. Root Co.,
MEDINA, OHIO.

GENERAL ITEMS

Bees Wintered All Right.

The bees have come thru the winter all right; 90 colonies, and no loss so far. They are having a nice time after the stormy weather. They have no dysentery—have not spotted the hives any. I wintered them out-doors altogether. I pack with forest leaves on top and between the outside shell and hive proper. I use the Gallup frame, run for comb honey, and do all my own work. I am 73 years old. The American Bee Journal is all right.

D. C. McLEOD.
Cheshire Co., Ill., March 11.

Clipping Queens—Euphorbia.

I am one that does not like to see a queen's wings clipt, but I practice clipping as a dire necessity, for reasons that have often been given. I make the clipping serve to show me how old the queen is whenever I see her again, as well as to prevent her flight, thus:

Of those reared one year I clip the left wing straight across; of those reared the next year, a slanting cut on the same wing; the next year a slanting cut on the right wing; and the fourth year, a cut straight across the right wing. As a queen seldom lives over 4 years, I can go over the same rotation in succeeding years.

On page 767 (1899) I tried to describe a plant that I thought might prove of value to bee-keepers, and later I was askt for a further description of it, which I was not able to give until recently. My neighbor who raises it says the name that the florists give it in their catalogs is Euphorbia Hetophilla, or Mexican fire-plant. The plant exudes a milk wherever broken or cut, like the milkweed. When the whole plant is cut off the bees will work on the stubble for some days. Branches cut off and stuck in water will keep fresh for months, and when the sun shines on it the little nectar-cups will fill, and new flowers continue to form. I intend to plant some soon to see if it can be raised easily enough to justify its cultivation for honey or forage, or both.

T. W. LIVINGSTON.
Sumter Co., Ga., March 9.

Domesticating the Bumble-Bee.

Doubtless there is no other subject that interests the bee-keepers more at present than that of establishing a strain of bees for business.

When I was a boy I found a bumble-bees' nest in a hollow stump, some 50 yards from my father's house. The stump was somewhat decayed and not more than 2 feet high. The entrance was in the top of the stump and ranged downward.

Oh, how eager I was to transfer these bumble-bees into a frame hive so I could handle their combs, rear queens, etc.

So I made a small hive with frames in it; secured the help of my younger brother, and got a glass fruit-jar that would hold a quart or more. Mother

Sharples Cream Separators: Profitable Dairying

A Good Sign
for a good garden in 1901 is to plant Maule's Seeds. Maule's Seeds lead all, have done so for years and are as far ahead as ever in the race.

PLANT
MAULE'S SEEDS
in 1900 and have the finest garden in your neighborhood. Our new catalogue, is the best seed book of the year. It contains hundreds of illustrations, four colored plates, up-to-date cultural directions and offers $2,000.00 in cash prizes. *It is free to all.* Write for it to-day. Address,
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Please mention Bee Journal when writing.

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Buy no Incubator and pay for it before giving it a trial. The firm who will not sell on trial have no faith in their machines. We sell the celebrated PREMIER INCUBATOR ON TRIAL. Also sole manufacturers of Simplicity. Catalogue and Poultry Helps, 5c.
Columbia Incubator Co. 5 Adams St., Delaware City, Del.

BEE-SUPPLIES!
☞ Root's Goods at Root's Prices ☜
POUDER'S HONEY-JARS and everything used by bee-keepers. Prompt Service—low freight rate. Catalog free. WALTER S. POUDER,
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begins with good wheels. Unless the wheels are good the wagon is a failure. IF YOU BUY THE
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made to fit any wagon—your wagon will always have good wheels. Can't dry out or rot. No loose tires. Any height, any width tire. Catalog free
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Best Northern Grown Seeds,
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on above plan. Write quick. Send names of your neighbors who buy seeds. $100 cash for best list. See catalogue.
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FROM LUNG OR KIDNEY
troubles can obtain valuable advice, FREE, by addressing DR. PEIRO,
34 Central Music Hall, CHICAGO.

☞Write at once, stating age, sex, occupation, how troubled, post-office address, and enclose return stamp for immediate reply.

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on trial. The New C. Von Culin is most perfect in ventilation, moisture and heat.
HATCHES EVERY HATCHABLE EGG. Money made and saved. Catalog FREE. Poultryman's Plans, 10c. Address,
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Lowest Freight Rates in the country. Send for Catalog.
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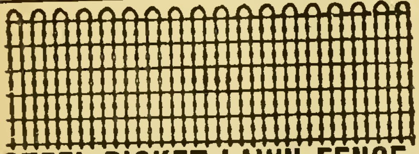

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This foundation is made by an absolutely non-dipping process, thereby producing a perfectly clear and pliable foundation that retains the odor and color of beeswax, and is free from dirt.
Working wax into foundation for cash, a specialty. Write for samples and prices.
A full line of Supplies at the very lowest prices, and in any quantity. Best quality and prompt shipment. Send for large, illustrated catalog.
GUS. DITTMER, Augusta, Wis.
Beeswax Wanted.

PATENT WIRED COMB FOUNDATION
Has no Sag in Brood-Frames.
Thin Flat-Bottom Foundation
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Being the cleanest is usually workt the quickest of any foundation made.
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remonstrated, but we promist to take good care of her jar.

So with hive, smoker and jar, we started for the stump to domesticate the bumble-bees.

The family dog, Pug, offered his assistance. After some consideration it was decided to let him go along.

Now when Pug was a mere pup some cruel person had cut his ears off, and bobbed his tail, so what tail he had left wasn't more than an inch long.

On arriving at the stump we placed the mouth of the jar over the hole to catch and hold the bees so that we could work to a better advantage in transferring.

Now the work began in real earnest. With club and stick we drummed on the stump, and to our happy surprise quite a goodly number of enraged bumble-bees came into the jar. The drumming and loud buzzing of the bees in the jar excited Pug's curiosity, so he began to render his assistance by exercising his vocal organs to their fullest extent. But by accident we overturned the jar. Falling to the ground it was broken in pieces. Of course this releast the enraged bees. Without hesitation brother and I fled for safety. Pug seeing our retreat quickly took in the situation. Unfortunate for him, one of the enraged bees fastened itself on the stump of his tail. With a howl he set off for the house. In at the door he went, turning over one or more chairs, upsetting the center table and throwing the Bible to the floor, and scattering other literature promiscuously. In a few minutes father came to the door, and said, "Boys, come over to the house a few minutes, please."

After explaining the matter from start to finish, and receiving some good advice, I was convinced that to domesticate the bumble-bee, so as to make it profitable, might take considerable time and ability.

But there is a sense in which the bumble-bee, when provoked to anger, is real business, and Pug ever afterward remembered it.

H. B. LAMBERT.

Simpson Co., Ky., Feb. 28.

On pages 54 and 55 Dr. C. C. Miller answered questions concerning the domestication of the bumble-bee. Now, if of sufficient interest yet, I will relate what I know about it.

When a boy I tried my hand at it, and I was quite successful in hiving the bumble-bees, as also in removing them from their original location to a small shed purposely prepared for them. I have had as many as 20 colonies in one season, and nearly all of them of different markings, size and temper. I made hives of clay, sufficiently large to provide room for their nest. At night, I took their nest, with the surrounding bedding of dry grass and moss, and placed it on a board, and then I put over it my clay hive, and left it on the original location for a few days. The bumble-bees were not slow in adopting their new surroundings, and, after removal, they carried on their business all right.

The variety of the bumble-bees in northern Germany is very great, as well respecting their color and markings, as the size of the different species. They also vary perceptibly in the quantity of honey they gather.

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in the hands of his customers and takes every prize in sight. It never fails. We lead in quality and lowest prices. We have the largest pure bred poultry farm in the Northwest. Our fowls are all strong, healthy and vigorous. Send for our Mammoth annual po[illegible] guide and learn how to make big money. Worth $25—sent for 15c.
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All the latest instructions about it; its value; what used for and how to grow it. This valuable information FREE for a stamp.
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By buying a poor fence that will let your stock fatten on his crops. The KITSELMAN FENCE is a satisfactory one. It insures good sleep and makes good neighbors. Free Catalogue telling how to make 100 Styles at the actual cost of the wire. Write to-day.
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A Monthly Magazine full of good, practical and trustworthy information on Bee-Culture. Trial subscription one year, 50 cents.
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TAKE THE FENCE DOWN
and restretch it where needed. It's portable.
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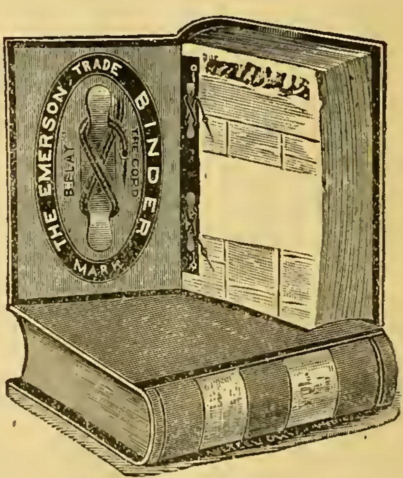
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This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.
GEORGE W. YORK & CO.
118 Michigan Street, - CHICAGO, ILL.

But, of course, the whole business did not amount to anything, except that it was very interesting to me.

With the approach of winter, all my bumble-bees disappeared, and none of them wintered in their little clay hives, so that only the pleasant remembrance of my boyhood undertakings remained with me, and they ever will.

Hall Co., Nebr. Wm. Stolley.

[The above experiences will probably suffice on this subject for the present. Altho it is interesting reading, it is not specially helpful to very many of our readers.—Editor.]

Hunting Bees.

It appears my question to Dr. Miller, signed "Massachusetts," has brought out some good points in regard to hunting bees. As several bee-hunters have come forward to substantiate my statements, I will venture to give one or two more of my observations along the "line."

I have noticed when working up on the "line," and the bees are working strong on the bait, one can tell when he gets pretty near the tree, by the number of bees that will be seen hunting and flying about in the grass and around the trees. I suppose they are bees that have not found the bait, but know there is a big boom in honey somewhere not far off.

I also find when timing bees from the bait to the tree, it makes quite a difference whether it is a young bee or an old one with ragged wings. It takes the old one much longer to go and come. A. E. Willcutt.

Hampshire Co., Mass.

Ordering Bee-Supplies Early.

I have never made a kick, I think, on anything contained in the American Bee Journal. I will have taken it 8 years next June, if I mistake not. It is my favorite bee-paper, but the editorial on page 136, on "Early Orders for Bee-Supplies," is a case of "last straw that breaks the camel's back."

Of course, I know the dealers' advertising amounts to a good deal more than my paltry $1.00 on subscription; nevertheless, I know most, if not all, papers are conducted ostensibly in the interest of the subscribers.

Now this old warning about ordering supplies early is, or has been, printed in bee-papers and supply catalogs almost times without number. I think it is high time we hear something about dealers shipping goods in a reasonable time after getting our cash, or else informing us *why* they can not. I know of no other business that makes a regular thing of taking your *cash* order and not sending goods for months afterwards. (It makes me hot all over.)

Now I want to tell some of my experience. I may not have dates exact for 4 or 5 years ago, but the last deal or two is fresh in memory, I can assure you.

I bought supplies first of a large Wisconsin firm. The first order was filled within a few days, but they got slower and slower. The last order, given in December or January, was received about March 10. I think I did order 5 hives yet after this, and got them the

Supplies from Lewis! Thousands of Bee-Hives! Millions of Sections
Ready for Prompt Shipment.
We manufacture Five different styles of hives,
The Dovetailed, Wisconsin, Improved Lang. Simp., Grim-Langstroth and Champion Chaff.
All are Leaders and UP-TO-DATE in every respect.
Excellent material and finest workmanship.
LEWIS WHITE POLISHT SECTIONS
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Not only do we manufacture the finest Bee-Keepers' Supplies, but our Packing-Case insures their arrival at your railroad station in perfect condition.
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DR. MILLER'S
Honey Queens
One Untested Queen Free as a Premium for sending ONE New Subscriber to the American Bee Journal for one year.

We have been fortunate in making an arrangement with DR. C. C. MILLER—the well-known honey-specialist—to rear queens EXCLUSIVELY FOR US DURING THE SEASON OF 1900. These Queens will be mailed in rotation, beginning about June 1, so "first come first served." We are ready to book orders now.

The Queens Dr. Miller will send out on our orders will be precisely the same as those he rears for his own use, so of course they will be from his best stock. His best colony in 1899 had a queen reared in 1898; May 5, 1899, it had brood in 4 frames, and he gave it at that time a frame of brood without bees. It had no other help, but May 25 a frame of brood with adhering bees was taken from it, and the same thing was repeated June 3, leaving it at that time 5 frames of brood. It stored 178 sections of honey, weighing 159 pounds (and that after July 20, in a poor season), being $2\frac{2}{3}$ times the average yield of all his colonies. A point of importance is the fact this colony did not swarm, and an inspection every week or 10 days showed that at no time during the entire season was there even so much as an egg in a queen-cell. Dr. Miller expects to rear queens from this one during the coming summer.

The demand nowadays is for BEES THAT GET THE HONEY when there is any to get, and Dr. Miller has such bees. You will want to have a queen from his best, we are sure.

Do not send any orders to Dr. Miller, as all orders MUST come thru us, according to our agreement.

Remember, send us $1.00 for ONE NEW SUBSCRIBER to the American Bee Journal for one year, and YOU will get one of Dr. Miller's untested honey-queens free as a premium. This offer is made *only* to our present regular subscribers. Orders for queens to be filled in rotation, beginning about June 1st.

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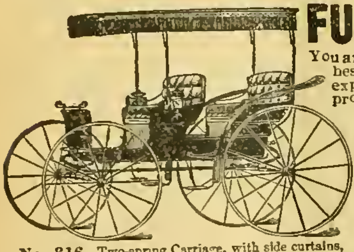

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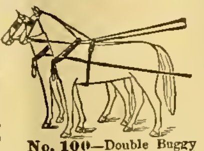

No. 100—Double Buggy Harness. Price, full nickel trimmed, $18.75 as good as retails for $28.

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SELL ROOT'S GOODS AT ROOT'S PRICES. Shipping-Cases and Danz. Cartons are what you need to display and ship your honey in. Send for Catalog. BELL BRANCH, MICH.

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Here we are to the front for 1900 with the NEW

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a comfortable home for the bees in summer and winter. We also carry a complete line of other SUPPLIES.

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Adel Bees Did It!

SAN LUIS, COLO., March 2, 1900.

Last spring (1899) I ordered queens from five different queen-breeders and among them one queen from you. The bees from your (Adel) queen gathered more honey than all the others put together. (Signed) S. N. SMITH, M.D.

Send for price-list.

12E2t HENRY ALLEY, Wenham, Mass.

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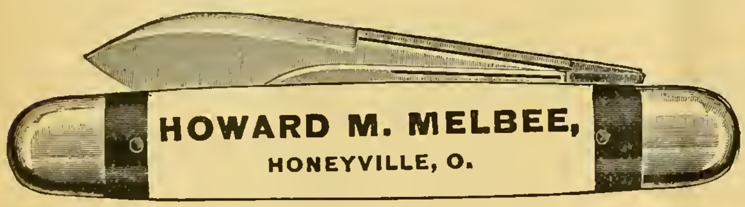
The Novelty Pocket=Knife.

Your Name and Address on one side—Three Bees on the other side.



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Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and in case of death, your relatives will at once be notified of the accident.

How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

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latter part of the summer, after swarming was over. I quit them.

Next I tried an Iowa dealer. He was about as slow on the first order, so I gave him up as hopeless. Oh, yes; I got some queens of him. I got a good queen, the last one, but it was a month or six weeks in coming.

I gave another large Wisconsin firm a few orders which were filled reasonably quick, so I have no kick on them.

But the worst deal of all is the one now on hand. About 5 years ago next spring I began to deal some with a third Wisconsin firm. The first order for comb foundation was filled the next day after its receipt, and as his foundation is fine, I thought I had found it at last. He was pretty prompt for a year or two, but gradually got slower. But I was so well pleased otherwise that I thought I would try him again. Now, understand, I have always ordered my hives, sections, etc., *early*, generally in January or before, except of course, some years I might require more than calculated on, and so be compelled to send for a small supplemental order later on.

So last *September* I wrote for quotations on 30 pounds of foundation and 2,000 sections. I was quoted a satisfactory price, and I sent the order a little after, or about the middle of *October*, with the request to ship the foundation immediately, as I was afraid of breakage in cold weather. Hearing nothing for a couple of weeks, and not knowing whether the order had been received, I wrote, asking about it, and again urging to ship the foundation before cold weather should set in. So the foundation was shipt Nov. 9, and I was told the sections would follow later on.

Wanting to fix up the supers, I wrote again Jan. 26, asking for the sections. The reply came that they would be sent in a *week* or *10 days*. About Feb. 15 I sent an order for $3.50 worth of nails, wire, smoker, bee-escapes, etc., and again urged sending on the sections, and now, at this date (March 5) I have heard no more of the order.

Do you wonder that I can't read that advice to "order early" with patience any more? Surely all winter is more time than justice requires to fill orders for stuff that should always be in stock? They do a cash business, they wouldn't trust me for a dollar; then why shouldn't they send goods promptly? Let them keep more help if the business is rushing—surely the laborer is worthy of his hire.

I suppose nothing can be done, but I thought I would write about it any way. Perhaps we will be spared on the subject of ordering early hereafter, even if the editor can't see his way to touching up the dealers on filling orders the same winter they are received.

The bees seem to be wintering well so far. We have had a pretty fair winter to date. E. S. MILES.

Crawford Co., Iowa.

[We trust every one of our bee-supply advertisers will read the foregoing, and particularly those referred to as evidently having been born slow. The trouble with Mr. Miles was, he didn't happen to send his orders to the right dealers to get prompt service. We could tell him of several places where we feel quite certain he could get his orders filled at least the same season, if not sooner! But he mustn't find fault with our advice to "order early," for the advice is all right—it was the dealers he chose to patronize that happened not to be of the get-there-quick kind. Next time try—try—well, we'll leave the selecting to you, Mr. Miles.—EDITOR.]

Bees Wintered Well.

My bees have wintered well. I took off 5,100 pounds of honey last year from 70 colonies, and increast to 120.

I am making my arrangements to be at the convention of the National Bee-Keepers' Association next August, in Chicago.

J. T. HAIRSTON.
Cherokee Nation, Ind. Ter., Mar. 10.

Report for the Season of 1899.

Our 50 colonies of bees, spring count, last season, gave us $129 worth of honey, above expenses, and we put into the cellar 105 colonies. The crop was light.

O. E. CLARK.
Calumet Co., Wis., March 10.

Bees Having a Picnic.

My bees had a general flight March 8—the first since Jan. 25. The weather is fine to-day, the mercury being 72° in the shade. The bees are having a picnic working on the water and carrying meal for pollen. I am minus only two colonies out of 46, and all appear to be in fine condition.

S. A. MATSON.
Nodaway Co., Mo., March 11.

Bees Are Hustling.

Almond, apricot, plum, peach, nectarines and many wild flowers are in bloom, and the bees are not able to gather all the food, but they are so busy that it does me good to see them. My bees wintered all right even to the weakest colonies. We are troubled with foul brood, but my bees are free from it yet. The weather is lovely, and very springlike.

L. NEHF.
Merced Co., Calif., March 4.

Sore Throat and Lung Remedies.

I send you two new honey remedies that are good, and will produce good results.

No. 1.—Dissolve one teaspoonful of boracic acid with ½ pint of boiling water; add one tablespoonful of extracted honey, and use as a gargle for sore throat.

No. 2.—To two tablespoonfuls of extracted honey, add one teaspoonful of powdered alum. Give a small quantity on the end of a spoon every hour for an expectorant, and in case of croup give larger doses—½ teaspoonful every ½ hour—till relief is obtained.

This last is a fine thing, and is indorst by my physician.

My bees have wintered fine; have started brood, and I don't think there will be any loss to report out of the 35 colonies.

L. C. SALSBURY.
Bradford Co., Pa., March 6.

Convention Notices.

Chicago.—The Chicago Bee-Keepers' Association will hold its regular semi-annual meeting in Wellington Hall, 70 N. Clark St., Chicago, Ill., April 6, 1900, afternoon and evening. The meeting will be called to order at 1 p.m. Dr. C. C. Miller is expected to be present if his health will permit. Mr. E. R. Root has been invited, also Mr. N. E. France, and others. A good time may be expected by all. Let every one come, especially the ladies.

Park Ridge, Ill. HERMAN F. MOORE, Sec.

Utah.—The Utah State Bee-Keepers' Association will hold its semi-annual convention in the City and County Building, Salt Lake City, Apr. 6, 1900, at 10 o'clock a.m. A full program in the interest of the industry will be presented, and all our bee-keepers can help themselves by aiding the Association, and in order to create a closer bond of union among our bee-keepers. As a further incentive to the success of the bee-industry, it is very desirable to have our bee-keepers from all parts attend the spring convention.

J. B. FAGG, Sec.

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—BY—

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GEORGE W. YORK & CO.
118 Michigan St., CHICAGO, ILL.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, March 8.—There is a small trade in choice to fancy white comb honey, at 15c per pound, but aside from this there is little doing in any other grade, with an uncertain range of prices, for those who have it want to sell and buyers can get reductions from prices askt. Off grades of white, 10@13c; ambers, 8@10c; dark, 7@9c. White extracted weak at 8c; ambers, 7@7½c; dark, 6½@7c. Beeswax steady at 28c.

R. A. BURNETT & Co.

CINCINNATI, March 3.—There is some demand for extracted honey from manufacturers at 7@7½c for amber and Southern; clover, 8@8½c. Comb honey is selling firm at 14@16½c in a small way. Beeswax, 25@27c.

C. H. W. WEBER,
Successor to Chas. F. Muth & Son and A. Muth.

LOS ANGELES, March 1.—1-pound frames, 12½-@15c; 2-pound cans, 2 dozen in case, per dozen, $2.50; 2-pound glass pails, per dozen, $2.50. Extracted, water white, 60-pound tins, per pound, 8½c; light amber, 7½@8c; dark amber, 7½c. Beeswax, 25@26c.

The prospect for a crop is very bad. Small lots in the hands of wholesale houses are firmly held.

BOSTON, March 9.—Our honey market is showing some signs of lower prices, altho the stock on hand is not large. At the same time prices are so much higher than previous years that the trade have taken it very slowly and the results are that the holders are willing to range prices quite a little in order to move stock on hand. Prices range: Fancy white, 17@18c; No. 1, 15@16c; amber, 10@12c; buckwheat almost unsalable. Extracted, best white California, 8½c.

BLAKE, SCOTT & LEE.

KANSAS CITY, Mar. 10.—We quote fancy white comb, 15c; No. 1, 14c; No. 1 amber, 13½c; No. 2 amber, 13c. Extracted, white, 8c; amber, 7c; dark, 6c. Beeswax, 22@25c

The supply of comb is very light, demand good; supply of extracted light, especially white, demand fair. C. C. CLEMONS & Co.

BUFFALO, March 3.—Market nearly bare of all grades of honey. Probably no more from any source to market, but if so, fancy white comb is firm at 15@16c. Other grades from 14c downward, with the poorest at 8@9c. Fancy pure beeswax continues at 28@30c.

BATTERSON & Co.

NEW YORK, Feb. 8.—During the past 30 days our market has been somewhat slow and easy in both comb and extracted honey. Stocks of comb honey, however, are almost exhausted, and there is a fair demand for all grades. Fancy white selling at 15c; No. 1 white at 13@14c; fancy amber, 11@12c, and buckwheat at 9@11c, according to quality, etc.

Our market is well supplied with extracted, tho prices are firm and unchanged. Beeswax sells very well at from 26@28c, according to quality. HILDRETH & SEGELKEN.

SAN FRANCISCO, Feb. 28.—White comb, 11½@12½c; amber, 8@10c. Extracted, white, 7½@8c. light amber, 7@7½c; amber, 5@5½c; Beeswax, 26@27c.

Supplies and demand are both at present limited, which is to be expected at the close of a light crop year. Business doing is mostly of a small jobbing character, and at practically the same figures as have been current for some time past.

OMAHA, Feb. 13.—Demand shows some improvement in January, having been much more active, but as anticipated there is no advance in prices. Market remains steady at 14@14½c for fancy white comb and 8½c for white extracted. The latter is pretty well cleaned up along the Missouri River, and it looks as if there would be some shortage before another crop comes in. From present appearances there is about enough comb honey to go around at the present prices, hence we look for no particular change in values. PEYCKE BROS.

Wanted! Your HONEY
We will buy it, no matter where you are. Address, giving description and price,
34Atf **THOS. C. STANLEY & SON, Fairfield Ill.**

Wanted to Buy Honey Would like to hear from parties having extracted honey to offer, and their price delivered in Cincinnati. I pay cash on delivery.
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10A 2146-48 Central Ave., Cincinnati, Ohio.

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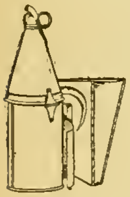
made of sheet-brass which does not rust or burn out should last a life-time. You need one, but they cost 25 cents more than tin of the same size. The little pen cut shows our brass hinge put on the three larger sizes.



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The perforated steel fire-grate has 381 holes to air the fuel and support the fire.

Prices; Heavy Tin Smoke Engine, four-inch Stove, per mail, $1.50; 3½-inch, $1.10; three-inch, $1.00; 2½-inch, 90 cents; two-inch, 65 cents.

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Bee Smoker

BINGHAM SMOKERS

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Farwell, Mich.

I ARISE

To say to the readers of the BEE JOURNAL that

DOOLITTLE...

has concluded to sell QUEENS in their season during 1900, at the following prices:

1 Untested Queen	$1.00
3 Untested Queens	2.25
1 Tested Queen	1.25
3 Tested Queens	3.00
1 select tested queen	1.50
3 " " Queens	4.00
Select Tested Queen, last year's rearing	2.50
Extra selected breeding, the very best	5.00

Circular free, giving particulars regarding each class of Queens, conditions, etc. Address,

G. M. DOOLITTLE,
11A26t Borodino, Onondaga Co., N. Y.

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Because it has always given better satisfaction than any other.
Because in 23 years there have not been any complaints, but thousands of compliments.

We guarantee satisfaction.

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Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

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The Classic in Bee-Culture—Price, $1.25, by Mail.

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A wide-awake, practical Western paper for wide-awake, practical Western farmers, stock-raisers, poultry people and fruit-growers, to learn the science of breeding, feeding and management. Special departments for horses, cattle, hogs, sheep, poultry and dairy. No farmer can afford to do without it.

It stands for American farmers and producers. It is the leading exponent of agriculture as a business, and at the same time the champion of the Agricultural States and the producer in politics. **Subscription, One Dollar a Year.**

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STRAWBERRIES—90 Varieties. Including new Gladstone, Pennell, Senator Dunlap, Twilight, Livingstone, Emperor, Empress, Rough Rider, W. J. Bryan. All standard, well-rooted plants. Don't miss our plant collection offers. **FLANSBURGH & PEIRSON, LESLIE, MICH.**

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GEORGE W. YORK, Editor.

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ESTABLISHT IN 1861 OLDEST BEE-PAPER IN AMERICA
BEE JOURNAL.
DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS.

40th YEAR. CHICAGO, ILL., MARCH 29, 1900. No. 13.

CONTRIBUTED ARTICLES

A New Bee-Cellar—How to Construct a First-Class Winter Repository.

BY T. F. BINGHAM.

THE view of the roof covering my practically air-tight bee-cellar is well illustrated by the cut. It is 20 feet wide and 20 feet long, and, as shown in sectional view, very steep, affording a large room for work above the cellar. But, what is of more value to the bees, the room is dark. It is into this room that the cellar is ventilated, or from it the bees receive the air they use without taking it from the unwarmed air outside. [See sectional view on next page.—ED.]

The sectional view shows the ventilator as passing up thru the roof in the middle of the floor. This is correct, all but in that the ventilating-tube, which is a three-inch tin conductor reaching from the bottom of the cellar two feet above the floor over the bees, does not directly reach the outside.

The value of this modifying room will be better understood by the fact that it is in reality a part of the cellar, and not merely a roof. The cellar is in all respects a cistern. It is 16x16 feet on the level of the ground, and 12x12 feet at the bottom. The sills are 2x12 inches, and 18 feet long, and lie flat in the cement of which the sides and bottom of the cellar are composed. The roof, as you will note, extends below the level of the ground, and discharges its water into board conductors leading to lower ground.

The floor above the cellar is 2 inches thick, composed of dry inch boards. Three inches of dry pine sawdust covers this floor. Every corner and crack thru which air could circulate is closed with Portland cement. Three trap-doors are of the same thickness as the floor, and an easy stairway leads to the cellar. The hives are in rows on all sides, three high, directly over each other, leaving an open square in the middle of the room.

The square hives stand on their regular bottom-boards, and have a back and front entrance 11 inches by ⅞, with no possible upward ventilation or communication. The roof is made of tamarack (larch-tree) boards, one foot wide, and battened with the same kind of lumber 6 inches wide, and covered with coal tar.

The cost every one will want to know. It was from $50 to $55. It now holds 90 colonies and would hold 90 more if necessary.

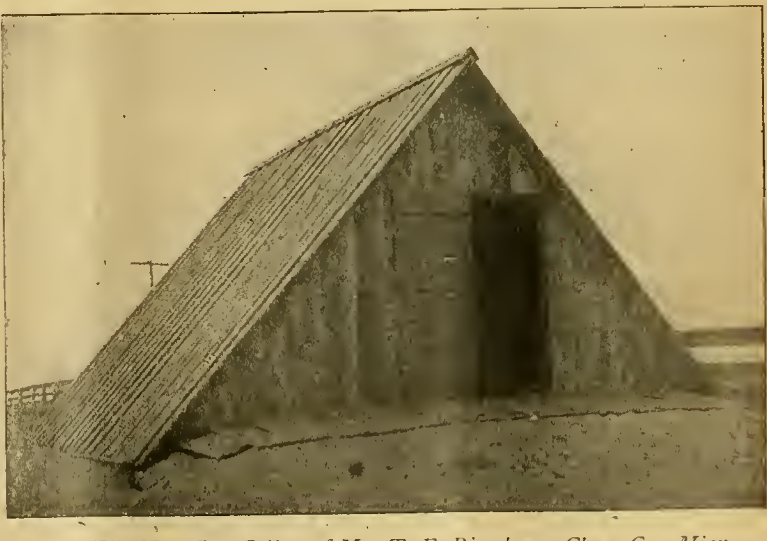
The ventilating-tube reaching to the bottom of the cellar proved to be a failure. While it supplied cold air, and kept the temperature all right, it failed to dilute the carbonic gas, and has been taken out. Only the three-inch hole in the upper floor has been used for the last month, and seems all right. The extreme variation in the cellar has been 4 degrees, being below 50 all the time, but no time as low as 45 degrees.

Feb. 14.—Bees O. K., 47 degrees. Out-doors, about 6 degrees. Death-rate about 2 pounds of dead per month, for the 90 colonies. The last sweeping gave an increase of ½ pound. They are swept out every twelfth day of the month, and the dead weighed. They were put in the cellar Nov. 12.

Clare Co., Mich.

[As I have said elsewhere in this issue, I believe it is to be one of the cheapest and best repositories ever devised. The scheme of having a gable roof and a good, thick frost-proof floor over the cellar, the latter below ground-level, is most excellent. The objection to the cellars of ordinary dwellings is, that about two feet of the cellar is above ground; and in the two feet of wall there is liable to be one or more windows thru which cold and light enter. By the Bingham plan, the whole, or practically the whole, of the repository is under ground. This thick frost-proof ceiling or floor overhead, further protected by a gable roof, makes almost an ideal protection.

Incidentally it is interesting to note how little ventilation, if the temperature is right, is required. I hardly need say that Mr. Bingham, the inventor of the smoker, honey-knife, and hive bearing his name, is a man of no ordinary ability. He is a fine mechanic himself, and a practical bee-keeper; and whatever *he* says is good, *is* good in my estimation.—EDITOR.]—Gleanings in Bee-Culture.



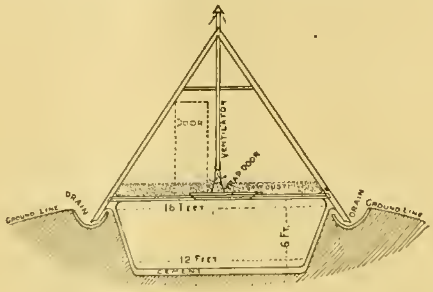
The New Bee-Cellar of Mr. T. F. Bingham, Clare Co., Micq.

Some Questions Answered—Ripening Honey, Etc.

BY G. M. DOOLITTLE.

QUESTION.—What is the best plan of ripening honey where we can not afford to wait until it ripens in the hive? If an extra building or anything of the kind is required, I wish to prepare for it this winter, or in early spring.

ANSWER.—If *you must* ripen honey out of the hive, I know of no better way of doing it than to place it in tin cans holding from 200 to 300 pounds each, allowing these cans to remain in a temperature which can be maintained at from 90 to 100 degrees of heat for a month to six weeks, leaving the top of the can open, and tying cloth over it to keep out the dust and insects. If you have the means, and are in a hurry to have the honey ripened, it can be done by slowly running the honey over a zigzag evaporator, which is kept at the proper temperature by heated water, steam, or lamps, so that it will be ripened fast, and yet not scorch or change the flavor of the honey. But let me advise you to let the bees take care of this ripening part.



Sectional View of Bingham Bee-Cellar—See previous page.

I am not sure that there could be any locality or circumstances where "we cannot afford to wait" for the bees to ripen the honey in the hives. We used to think we could not afford the combs to use in tiering-up hives that were necessary to wait till the end of the honey season, but I think this was a mistake. Not affording the combs, the bees had to remain partially idle while the honey was being sealed, which was a loss in time, so the honey was extracted every three or four days, when it was thin and unfit for use; but in these days of comb foundation, much the better way is to tier up the hives, adding foundation as needed, letting the bees seal the honey as far as possible, when it is to be brought into a warm room, if so cool in the fall to be necessary, and, when thoroly warmed, it will be little more work to extract it than it would be were it taken from the hive when two-thirds sealed, as was considered the proper thing years ago. Honey obtained by this tiering-up plan is superior to that secured in any other way, increasing the demand for extracted honey in the markets, instead of decreasing the same as did the honey of 15 to 20 years ago.

INCREASING THE NUMBER OF COLONIES.

QUESTION.—I wish to increase my bees to 50 colonies next season. I have 17 colonies now to do it from. I should like to know the best way to do it and still get some surplus honey.

ANSWER.—A large increase of bees, and "some surplus honey" at the same time, is something which is not very likely to occur, especially with a novice at the business. Still, there are ways in which it is sometimes accomplisht. One of these ways would be to let the bees swarm naturally, hiving the first and second swarms, returning all those which come out after the second. Put sections on the first swarms, hiving them in contracted brood-chambers; and if the swarms came early enough in the season, put sections on all of the old colonies as soon as the young queens commence to lay.

A still better way would be to keep the colonies from swarming as much as possible, hiving the few swarms which did come in contracted brood-chambers as above, and six days after the swarm issued divide the old colony into nuclei, with a queen-cell for each. Occasionally, as needed, to keep those not having swarmed from taking the swarming-fever, take frames of brood from them and give to the nuclei, thus building them up into strong colonies. Replace the frames of brood taken with frames filled with comb foundation, thus preventing the building of drone-comb. If successful as you should be, seven of the colonies swarming would give all of the increase needed to make the 50, thus leaving 10 to roll up all the surplus honey they possibly could, were the same 10 workt for no increase, provided you do not draw brood from them more than to keep down the swarming-impulse.

WHICH WAY SHOULD HIVES FACE?

QUESTION.—Which way should hives front, all things considered, in order to obtain the most profit from the bees? East, west, north or south, where they are wintered on the summer stands? and which way when they are wintered in the cellar?

ANSWER.—Some seem to think that it makes no difference which way the hives face when they are on the summer stands, but I think otherwise, especially in the winter. I have had hives facing almost all points of the compass, and those doing the poorest faced the north, while those facing south to southeast invariably did the best. I have lost colonies in winter facing the north, when those facing south and southeast would have good cleansing flights, and be in good shape for another long cold spell, the others not flying at all on account of the sun not shining on the entrance, hence they died with diarrhea, as it is called, by not having a chance to void their excrement.

Again, in summer bees in hives facing the sun will generally work longer each day than will those whose entrances the sun never shines upon.

Once more, the prevailing winds are from the southwest to north in this locality, and where hives face the west or north, more stores are consumed in keeping up the heat of the cluster where the prevailing winds blow directly in at the entrance, carrying off the heat generated by the bees.

Then, again, in all windy days the bees can reach the entrance readily when the hives have their backs toward the wind, while if faced toward the wind they are blown from their doorway, time and time again, before they can strike just right to partly fly and run in. This last part was what caused me to say that I would never face any hive, even during summer, in any other direction than south by east.

But to the other part of the question. If I am to understand by the latter part of the question that the inquirer thinks that it makes a difference which way the hives face while in the cellar, I can only think he is making a mistake, for I can not see how it can make any possible difference in a cellar of even temperature and total darkness. If there is a window in the cellar which admits light, it is better to darken the window; yet at my out-apiary cellar the people don't want the cellar dark, so I face the hives toward the wall and away from the light, when they winter very nearly as well as they do here in my perfectly dark cellar. Yet, if I am right, it is conceded by all that a perfectly dark cellar tends more toward a successful wintering of bees than does a light one.

Onondaga Co., N. Y.

❧

Experiences of a City Honey-Salesman.

BY S. A. NIVER.

"WHAT strange game one sees when he has no gun." That wise saw is forcibly brought to my mind as I meet the many strange notions people will persist in advancing as good argument when I am showing honey with the hope of selling a big (or little) order. Your average dealer hardly "knows a honey-bee from a mudwasp," but is well posted on just how artificial comb honey is produced, and what large quantities are sold of "the stuff" every year!

Only last evening I overheard a clerk telling a lady customer that you could easily tell when comb honey was genuine—"by noticing the number of layers in the comb." (I just held my breath to catch the rest of it.) "But whether it is one or two layers that show it to be genuine honey, I have forgotten." Simply another case of, "Good indigo will either sink or swim, and I don't know which."

The good old way of sitting down to a long visit to inform your customer thoroly is costly, and many times impossible on account of the rush of business; besides, these city grocers only like to sell just what is called for, seldom calling a customer's attention to something new and especially desirable.

Another woefully ignorant and intensely annoying individual is that near-by bee-keeper, who doesn't take the bee-papers, but just loads in his honey, and goes towards the city selling his honey four or five cents per pound cheaper than quotations. One chap of this class lost enough this year in that way to pay for a bee-journal for 75 years.

Say, Mr. Editor, can't you think of some way to get people who frequent saloons to take honey in place of "booze?" Great Scott! what a market that would open up. One man said that if I would bring around honey in a jug or beer-keg, "so as to look kinder nateral," I might sell lots of it. He did not label his remark "sarkasm," as Josh Billings did, but it sounded that way a bit.

"Why is honey so seldom seen on restaurant tables?" I askt of the cashier where I took lunch. He was a roly-poly Dutchman, and smiled at me in stupid tolerance. Showing him a sample of as fine extracted honey as one could ask for, and getting him to taste it, I actually imagined I had created a favorable impression. He took a liberal taste, then smiled in his broad, stupid way, and muttered, "Glooco—all glooco. Dot real honeey is in leedle comb-cells—never coom loose like dot. Dey don't got him oudt onct yet." I went away from there. Life is so short to post up *all* these poor human critters who never heard of an extractor.

That makes me think, Mr. Editor, that your lecturing before the schools has been followed up by Mr. Hershiser, of Buffalo, who was engaged by the school board to give a series of lectures before different schools in that city. Why can't you persuade that exceedingly modest lawyer bee-keeper to write up that experience for the benefit of *all* bee-keepers? He said: "Oh, I am not given to tooting my own horn," when I askt him to tell us his methods, conclusions and impressions of that way of educating the coming citizen to eat honey.

In a small grocery an old lady was the only occupant that I saw, so I askt her if she kept honey in stock for sale. She replied, "We do;" while a loud voice from behind a pile of flour, in unmistakable Kilkenny accents, says, "*I* do." He had plenty of honey on hand—that nice clear "honey" in tumblers, with a piece of comb in it, which never granulates, and sells cheap—and he knew it was pure honey, for he went to his wholesaler and saw him take the honey right out of the combs, and if I would go I could see them do it every day in the year! How does that strike you, Mr. Editor? Extracting honey in a wholesale grocery house in February, thermometer down to zero! But I accepted the gentleman's statement, and moved on, searching after more advertisers in the same line.

The pure-food law may help out some if a determined effort is made by somebody to enforce it; but who is that somebody? And is it likely to prove a boomerang, by frightening grocers into refusing to sell *anybody's* honey, under any circumstances?

The problem of getting honey to the consumer at a price which will make it a competitor of sugar and syrup, has so many factors to it that a solution seems far in the future, if it is ever accomplisht at all.

NO. 4.—COMB HONEY PRODUCTION.

Putting on Supers—Clipping Queens—Age Limit—Controlling Swarming—Crowding the Brood-Nest.

BY R. C. AIKIN.

We have considered methods of encouraging breeding, and of getting the brood in the best shape and position in the hive. Following the lines indicated will have each queen produce almost as many bees as she could well do, tho there will almost always be a few colonies that become so weak in winter as to be unable to build up to good ones. If care has not been taken to supersede aged and weak queens, such will cause a few additional weak colonies.

As the flow is just ready to begin, or has begun, the colonies that are to store the surplus must be prepared and supers put on. We have come to a time when we do not care for very free laying by the queen, *unless* there be a second flow. If the crop is to come from one flow, and that only, no attention need be given to increasing brood when once the flow has arrived, but instead turn all effort to getting the most honey possible.

Every colony that works in sections must be strong. I would select those that are already strong enough to work in supers, and give them their supers first. Those that are *almost* strong enough I would help up by adding bees from a weaker one, taking from the weak one both brood and bees, leaving only enough bees to care for brood as the queen will lay. In selecting the brood to take, pick out much ripe brood, or that which will give to the colony to which it is to be added the greatest number of workers in the shortest time. In this way unite and build up to super strength as many as possible, the weak ones being left to build up again to full colonies.

I favor the practice of clipping the queens—I clip and recommend it. That is a job best done in the spring, or early enough to have done with it before the colonies become very strong. Clipping serves us in several ways: It gives the apiarist somewhat more liberty, for he can feel that if he must be absent awhile, and a swarm issues, it is not lost (the loss of a queen at this time is unimportant; it occurs when there are hundreds of good young queens going to waste; it is practically no loss unless brood is wanted for a later flow). As soon as a swarm issues provision is made to let them hive themselves as the apiarist may wish, and they will return and enter a hive much quicker, and with much less labor, than if hived by taking from a tree or other clustering-place; and also there is much advantage in keeping track of the age of queens.

It is almost impossible to know how old a queen is unless clipt. The practice of clipping gives the apiarist an insight into the age limit and supersedure methods of the bees, that he would scarcely get in any other way. Of course, a record is a part of the system—should be of any system.

In the years gone by much has been written at times about clipping queens and how it damaged them, of how they were more apt to be superseded, etc. Now I have handled hundreds upon hundreds, yes thousands, both clipt and unclipt, practicing methods that required much close inspection of the internal working of the colony, and surely if clipping caused damage to queens and undue superseding, I ought to have found it out. I have found out much about conditions that favor superseding, but those clipt do service just as unclipt, and so long as they are *good*.

Well-bred queens are good for two full years' work, and the great majority for the third year. A queen hatcht in the early part of the season, so that the year of her hatching she does much breeding, is aged and very uncertain her third summer. Hatcht in mid or late summer she will complete that year, all the next, and make a good colony for the next honey season after that, when she ought to be superseded. Don't expect a queen to do more than two hard summers' service. Many will be good for longer, but enough will not to make it unprofitable to risk keeping longer.

Having reacht the active season when supers are on the strong, and those that have been helpt to proper strength, the next great care is to keep the honey-gathering going, and not too much swarming. Here comes the place that of all the season requires skill, prompt and intelligent work. If you have failed in getting the colony to proper strength, you can partially remedy the matter by uniting, but if you fail in handling the work properly in the storing of the surplus, you have a poor product that can never be remedied. To fail in getting strong colonies is to lessen the quantity of the crop, and to fail in management when the harvest is on is to damage the quality and lessen the price.

As already taught in these articles, some things help to keep down the swarming-fever, and having practiced these, and natural conditions favor you besides, you should be able to run for 10 days to 2 weeks of a flow with very few swarms; but if general conditions have been favorable to swarming, you may expect wholesale swarming almost simultaneous with the coming of the flow unless you have striven against it. I am so successful now in the preventive measures taught hereinbefore, that I can usually depend upon a week to 10 days of a flow with a very few if any swarms *any season*.

I have never been in the basswood regions, nor experienced more than a very limited flow from this source, but I gather from reading that a basswood flow lasts only from one to two weeks. Any honey-flow that is harvested in two weeks' time ought to be, and *can be*, manage with very little swarming. Flows lasting longer than two weeks are more difficult to handle successfully. Remember this, *previous management of the colony has much to do with controlling swarming*, and to control swarming means much in both quantity and finish of the honey.

Never allow a colony to become crowded in the brood-chamber. This may result from various causes. A colony that has just enough bees to nicely handle the brood-chamber and send out a reasonable field-force, will crowd the brood-chamber *regardless* of sections and room above. A flow that comes rapidly, giving the bees all they can do—a flow that just keeps every bee to all it can do, and for two weeks or more, will get super-work from many a colony that in a slower flow would not touch the sections.

When all the conditions of weather and nectar-secretion are favorable, almost any colony will do fair work; but as these conditions are wanting, the greater is the demand for other helps, such as strength of colony, bait-combs, and all the little encouragements we can give. To have all these helps, and then come the favorable weather and flow, and the apiarist has what is known as a paying crop—one of the record breakers that astonish the tenderfoot, and even the apiarist himself—to look after the details pays first, last and all the time.

A weak colony will crowd the brood-chamber in a good flow, a medium colony will do the same thing in a medium flow, and a strong colony will *just do* the *same thing* in a very light flow, or one that is very long-drawn-out, coming in *very slowly* for a long period. These are facts that we must consider, for just as we ignore them we detract from our success. The results we may rest assured will be according as these factors stand in relation to each other, and it is the science of apiculture applied, to bring the greatest number of favorable factors to bear at one time.

Larimer Co., Colo.

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Safe Introduction of Queens—Building Up.

BY C. T. BONNEY.

THIS is one of the most important manipulations in apiculture. Upon it depends the improvement of stock (which is all important); upon it depends the queen-breeder's business almost entirely. If a plan of introduction could be found that would always guarantee safe introduction of queens, it would perhaps help as much as anything else to make the apiarist master of his trade.

A number of plans of introducing queens have been given to the public in the past, all, or nearly all, of which have been successful in a measure, but it seems that no plan yet introduced is always successful. I have used every plan that I have ever seen recommended, and have had good success with some, yet I have sometimes failed with all, but the plan which I now use has never failed, no matter what the conditions of the bees were. I got the idea from Mr. Doolittle's "Scientific Queen-Rearing," only I carried it a little farther. The plan is as follows:

Go to the hive to which you wish to introduce a queen, take out the present queen, smoke gently and jar the hive until the bees have filled themselves with honey, then shake about half the bees into a box 15 inches square, with wire-cloth sides; set the box away in some cool place until the bees mourn for a queen, which can be told by the bees hurrying around the box in every direction, as if greatly excited. Then introduce the queen by dropping her in at the top; the bees will at once accept her, and form a cluster.

Let them remain so for some time, then shake them in front of the hive whence they came, and let the queen and bees run in, smoking the hive gently.

I have introduced queens by this method at a time when there was no honey-flow, and queens not laying, and have never yet had a failure. Queens coming a distance, when treated thus, will lay sooner than by the caging plan, and are not so liable to be superseded.

I treat laying workers in the same way, only the bees used are taken from some strong colony, care being taken to get as many young bees as possible, and a queen that is laying. Smoke the hive containing the laying workers thoroly, and run in the bees and queen, and the work is done. Bees treated thus will stay anywhere.

It might be well to add that the best time to take the bees out is in the morning, and run them in in the evening.

This is also the best plan I have ever tried to build up weak colonies: Take one or two quarts of bees from some hive that can spare them, cage them for eight or nine hours, then run them into the weak colony, giving a frame or two of brood at the same time, and the effect will be magical. A weak colony will be turned into a strong one almost at once. I believe it a wrong idea to overburden a weak colony with brood, as it does not give them a good chance to defend themselves. They should have bees as well as brood. If there is any quarreling (which there will not be once in a hundred times) give tobacco-smoke until you quell the riot.

Marion Co., Oreg.

CONVENTION PROCEEDINGS

Report of the Colorado State Convention.

[Continued from page 182.]

THE USE OF COMB FOUNDATION IN SECTIONS.

Mr. Pease introduced this subject by saying there was no danger of using too much. He uses a wide strip at the top, and a narrow strip at the bottom.

Mr. Thompson—I experimented a little last season on the width of the sheets. In one super I had alternate rows of full sheets coming as close to the wood on each side as could be got in conveniently, and full sheets cut rather narrow so as to be ¼ inch away from the side. The sections containing the wide full sheets were much better filled than those containing the narrow full sheets. It made more difference in the filling of the combs than anything I have ever tried.

Mr. Martin—I would recommend using full sheets, tho I always use foundation in proportion to circumstances. I always fasten both the top and bottom of the sheet.

Mr. Thompson—Don't the combs bulge?

Mr. Martin—No.

Mr. Thompson—Do you use separators?

Mr. Martin—Yes.

Mr. Thompson—I tried virtually the same thing for pinching together a full sheet with a bottom starter, and those sections all bulged more or less. But they were not used with separators.

Mr. Martin—It is something of a trick to fasten foundation in my way, and I would not advise any one to do so unless he does it right.

F. Rauchfuss—Does it pay you to use full sheets?

Mr. Martin—I would use as much as I could. I mean I wouldn't run in debt for foundation. One reason I fasten both the top and the bottom is, it makes the combs better for hauling. I can put in one full sheet quicker than a full sheet and a bottom starter. I fasten it by pressure.

Pres Aikin then called for a rising vote on full sheets *vs.* starters. Five were in favor of full sheets.

Mr. Pease—I believe in using full sheets, but don't do it.

Mr. Porter—It is the same with me.

Mrs. Hood—The results are better, but they cost.

Ch. Adams—The advantage in using a bottom strip is greater than that of using a full sheet.

Pres. Aikin—All in favor of using full sheets rise. (18, and none opposed.)

Mr. Porter—One thing we must always look out for in fastening is a sufficient amount of heat.

Mr. Lyon—It should be enough so that the foundation is seen to be melted where it touches the wood, so it squashes out a little. To get an abundance of heat I substituted a student-lamp for the little lamp that comes with the Rauchfuss machine, and lower the flame when the wick is too great.

Mr. Adams—The hot plate should be manipulated so as to get the wood warm.

Ch. Adams—That is just what I want to avoid.

H. Rauchfuss—Keep the wood cool and the wax hot. If the wood is hot, the foundation will pull down when the section is turned over.

J. B. Adams—The boy that works my machine works slowly and needs less heat. He does not turn the section over until the foundation is cool.

H. Rauchfuss—Last summer I had a 14-year-old boy fold, fasten in foundation, and put in the supers 1,000 sections in half a day. He was not so quick as I have had them. I have had 1,500 sections put up in that time. With my machine, one has to work fast to do satisfactory work.

Mr. Lyon—There should be lots of heat, and I think a larger burner should be used, which can be turned down if it gets too hot. The section must not get too warm.

F. Rauchfuss—The foundation should be as cool as possible. A bucket of cold water is handy to keep the can of foundation in, covered up.

Mr. Lyon—That is a very important point. The foundation should be cut early in the day. I keep mine in a can until it is wanted.

Mr. Porter—I use a refrigerator.

Pres. Aikin—My machine works on the same principle as the Rauchfuss. I have found the section and the foundation can both get too warm. The foundation should be kept from wiggling while it is cooling.

HONEY-PLANTS FOR COLORADO.

Mr. Harris urged the importance of considering new honey-plants which might be adapted to Colorado conditions, and suggested yellow sweet clover, which blooms a month earlier than white, and fireweed.

F. Rauchfuss—We have yellow sweet clover here already.

H. Rauchfuss—It blooms before alfalfa. A field of it near me was cut, and died in the forepart of July. It doesn't live as long as the white.

Mr. Porter—In regard to fireweed, it grows only where a fire has cleared the brush. Since the land has cleared, it has disappeared. To grow that here would be like introducing cleome to Michigan.

OFFICERS AND COMMITTEES.

Officers for the ensuing year were then elected, as follows: R. C. Aikin, President; Ch. Adams, vice-president; F. Rauchfuss, Box 378, Denver, secretary; Mrs. R. H. Rhodes, treasurer; W. L. Porter, member executive committee.

Messrs. Cornelius, Crawford and Jouno were appointed a committee on exhibits, and Messrs. Pease, Harris and J. B. Adams a committee on supplies.

The committee appointed to confer with a committee from the Horticultural Board on the next program reported that the committees had jointly decided that both the horticultural and the bee-keepers' meeting should be held on the same days, and that at 2 o'clock of the first day the bee-keepers should adjourn to meet with the horticulturists to listen to a lecture of interest to both, secured by the horticulturists, and that at 2 o'clock of the second day the horticulturists should adjourn to meet with the bee-keepers to hear a similar lecture arranged for by the latter. This report was adopted, and the committee retained.

H. Rauchfuss—Prof. S. J. Hunter delivered a lecture to the horticulturists to-day on the relation of insects to the fertilization of blossoms, that did us more good than anything I have ever heard. Every bee-keeper should get a copy of the horticultural report, for the sake of that lecture.

HIVE-COVERS, BOTTOM-BOARDS AND SUPERS.

Mr. Root, by request, then exhibited two hive-covers and a bottom-board he had with him. The bottom-board was a combined stand and bottom-board, with a sloping front serving for an alighting-board, and the part of the bottom-board coming under the hive had a gentle slope from rear to front, so as to make a large entrance. One of the covers had fine grooves on its top near its edges, so as to prevent rain-water from flowing over the edge and into the hive. The other was of two pieces, with a third piece above over the joint of the others, the three being so grooved to correspond with each other, that the shrinkage of the upper piece would draw the two lower pieces together, and keep the joint tight. The springs in the new supers were also exhibited.

Mr. Gill—I think a great deal of the springs for this dry climate. I have used them in 800 supers.

TIERING-UP SUPERS.

Mr. Gill—A great deal of honey is lost by improper tiering. A colony that needs a super needs it badly. A great many bees could be employed in a second super that would otherwise be idle. They should be watcht closely. I always put the additional super under the first one. It is necessary to know the condition of each individual colony at least once a week.

Mr. Thompson—For the last three years R. D. Willis has come to rely more and more on tiering-up by adding the additional super above the first one. I found, when in Utah, that Mr. Geo. Hone does so. He is one of the best bee-keepers in Utah. I still felt incredulous about it, as the other Utah bee-keepers think Mr. Hone gets good crops because he is a good bee-keeper anyway, and that he would get one-fifth more by following the orthodox plan. Since returning here I have learned that H. Rauchfuss is dropping into it also, and I begin to think there is something in it. I would like to call on Mr. Rauchfuss to give the reasons for his doing so.

H. Rauchfuss—A great many times unfinisht sections are obtained by the practice of adding the super below. But judgment is needed in applying the other method. I would not recommend it in all cases. When the super is three-quarters full, and there are good prospects for more, I would put the added super under the first one. If there was any doubt of the flow continuing, such as would be caused by hail or drouth, I would put it on top. If you use only starters, without bottom starters, and the bees are slow, put it on top. But if full sheets with bottom starters are used, and the bees boil up when the quilt is thrown back, or work up on the bottom starters of the new super an hour or two after it is put on, then the super should be placed above. But I do not leave it in that position. When the first super is almost finisht, then I alternate them. The honey is not stained with propolis nearly so badly when this method of adding the new super above is followed.

Mr. Martin—My experience is about the same as that of Mr. Rauchfuss. I have previously used the ordinary method, but during the last year or so I find it doesn't always pay. I want to take off the honey as soon as it is capt. By this method the bees are kept at work building comb, and at the same time the sections are finisht quicker.

Mr. Brewer—I have a glass hive with glass supers, and have seen the bees working in all three when the supers were added on top. If only one or two supers had been given them, they would not have had room.

Mr. Martin—The ordinary method is very good to get the bees in the new super, but the other brings down the number of unfinisht sections to as small a number as possible.

Mr. Brewer—I have stackt the supers six high that way.

H. Rauchfuss—I have had six supers on a colony at once by the ordinary method, but the outside sections were not finisht. One season I ran a colony with not more than two supers on at once. That colony gave 252 pounds of comb honey.

Mr. Moon—I hardly ever tier up more than two. I don't believe the hanging out of bees in front does any harm. They are curing their honey. I don't think it a good idea to give them more room than they will employ.

Mr. Martin—One objection to raising the super to put a new one under is that the work of capping in the upper super is hindered while the bees are building comb in the lower one, so that both are finally capt at once, and the work is retarded. I like to have the honey capt quickly with nice, clean wax. When the bees are capping and drawing out at the same time, the capping is not done so readily as when the super they are capping is below. Those bees that lie around are the ones that build the combs. Bees build comb on the outside of the hive sometimes.

Mr. Harris—How many practice baiting the bees up into the super when the first super is put on? (Mr. Brewer and Mr. Cornelius responded they did.)

Mr. Cornelius—The first new super that is occupied I break up and distribute among the other supers, bees and all. It seems to start them.

H. Rauchfuss—If the colony is not in the right condition they will hang out even if they have nothing else but combs. It happens frequently that some of the best colonies are comparatively idle in the best of the flow. I remember one instance when they hung out after I had added supers, I don't know why. I have had colonies alongside not half as strong that finisht two supers. In that case, bait sections would do no good. The condition of the colony counts far more than the bait, tho I use bait sections.

Mr. Harris—Often a bait section with a little honey draws them up.

H. Rauchfuss—That shows the colony is in the right condition.

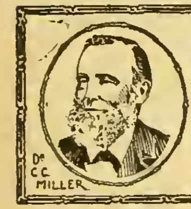
Mr. Martin—Sometimes I have stubborn cases of lying out, and the bees will not cap the corners of the sections, and make thin combs. Such a colony should be requeened. I usually give it extracting-supers. If stubborn, I give the super underneath a few days, and then put it on top.

Mr. Brewer—Have you ever tried withdrawing one comb and putting in a blank?

Mr. Martin—Yes, but I thought it not successful.

The committee on resolutions offered resolutions of thanks to the press and to the Board of Capitol Managers, and then the convention adjourned subject to the call of the executive committee. FRANK RAUCHFUSS, *Sec.*

The Premiums offered on page 173 are well worth working for. Look at them.



QUESTIONS AND ANSWERS.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Feeding Sugar Syrup in Spring.

What would be the result to feed with syrup before the spring honey-flow commenced, so that the brood-chamber would become filled and the bees would be forced to carry all new honey into the upper chamber? Would it produce an inferior quality of bees being fed on anything but honey while maturing? MASSACHUSETTS.

ANSWERS.—Some have claimed that bees reared on sugar syrup would lack stamina, but the fact is not establisht with entire certainty, and many have had bees reared on syrup without mentioning any difference in the quality of the bees. Caution is needed, however, in feeding syrup largely in early spring. If the weather is objectionable, the feeding may induce bees to fly out and be lost, making more loss than gain. If there is too much syrup in the brood-chamber, there is some danger that some of it may be carried into supers after they are put on.

Plan for Avoiding Swarming.

I have 25 colonies of bees in good condition. I expect to be away this summer and would like to avoid their swarming, and would like to know if this plan will work:

I have 15 hives, each holding 17 frames with a division-board in the center, and a queen and two bees on each side of the division-board, but isolated thoroly. Now suppose I go to the hives filled as above, and between fruit-bloom and white clover, or about the first of June, and pull out the division-board and put on the supers at the same time, and close the hive. Will they swarm with two queens present, or will one queen be killed, if they would swarm?

I expect to give this a trial, and then about the first of August take off honey, and put in the division-board as before, and give a good ripe queen-cell to the side having no queen. By this way I could have a new queen in the hive this year, that is, if the old one was always killed. I have never read of a plan of this kind, and have thought it out myself. PENNSYLVANIA.

ANSWER.—One of the queens would most likely be killed, but the entire plan may not give as much satisfaction as you expect, and it will be well to try it on part only.

Late Feeding—Italianizing.

Last winter I kept my 5 colonies in our cellar which has brick walls, cement floor bottom, with lath and plaster ceiling, and did not lose a colony, and the winter was the severest we have seen for many years. Last fall I had 14 colonies, and the fall and early winter being so nice, I left them on the summer stands until to-day (March 3), when on examining I found only 4 alive. Thinking they would need some feeding soon, I put them into the cellar, and gave two colonies sugar candy made from a recipe taken from the "A B C of Bee-Culture." The other two colonies are in box-hives, but judging from the weight of them they are better fixt for stores; they were my first ones, or the first hives I had; for the others I used the 8-frame Langstroth.

Most of those that I lost were rather small colonies, and nearly all had plenty, or some, honey. I am under the impression that they froze out, as the temperature got 14 degrees below zero about Feb. 15 to the 20th. I had them in an orchard on a southwest slope with a good north and west windbreak.

As last season was a poor one here in northwest Nebraska, the late swarms did not store enough to winter on, so I fed them until it got too cold. I have the Champion or Miller and the tin feeders.

1. Do you think feeding until it got too cold would be injurious to them? I used a syrup made of granulated sugar.

2. One of my surviving colonies are blacks or hybrids, that I captured from a cottonwood tree near by. Which will be best to give them, the first queen-cell from one of my Italians, or give them a queen? There are not any bees within 15 miles of me, and as I like to work with them I would like to do better than I have this winter.

There are not much of any clovers or buckwheat raised here, and no basswood, but lots of heartsease and wild flowers. I have 5 or 6 acres of alfalfa, and have sown and got a good start of white clover. About June 1, 1898, I had a swarm issue (while at dinner), and go into a box-hive with the brood-chamber nearly filled with old, empty comb. They filled the brood-chamber and stored 54 pounds of surplus honey, which I thought was doing pretty well. The alfalfa was about all they workt on. W. H. R.

ANSWER.—1. Feeding too late might certainly help toward destruction. Better get feeding done in August and September. Too much swarming was probably a chief trouble. If your five had increast to 10 instead of 14, you would probably have had more this spring.

2. So far as Italianizing is concerned, it will make little difference whether you give a queen-cell or a queen, providing you get them to use the queen-cell. But of course they will be farther on with a queen. A good way would be this: When an Italian colony swarms, set the old hive in place of the black colony, setting the blacks in a new place. Then the Italians will swarm again, giving you a strong swarm with a good queen.

A Beginner's Questions.

1. When is the earliest in the morning bees will swarm out?

2. I have heard bee-men say they could tell the night before they swarmed. How could they?

3. How can I prevent a swarm from going away?

4. If you go to a hive in the morning how can you tell whether it will swarm before night?

5. Will a swarm that runs away ever come back if it can find no place to suit it?

6. When a swarm is going to alight on a high branch, how can you prevent it, and make it alight on a low one?

7. Do bees ever come out of a hive after you hive them?

8. How can I prevent them?

9. Will bees swarm on a cloudy or windy day? ONTARIO.

ANSWERS.—1. Generally you need not look for swarms before 9 o'clock, but in rare instances they may swarm as early as 6.

2. They probably referred to afterswarms, not prime swarms. About 8 days after the prime swarm, if you go to the hive at night, put your ear against it and listen, you may hear the queen piping, saying in long, drawn-out and rather shrill tones, "peep, peep, peep." If you hear that, you may look out for a swarm the next day. If there is no piping you need expect no swarm the next day.

3. Let the hive be well shaded and well ventilated, having it raised up from the bottom, and for the first day or two it may be well to have the cover raised half an inch or so. Some practice giving to a swarm a frame of brood to hold them.

4. You can't. If other colonies are working hard, and a strong colony seems idly hanging out, you may suspect an intention to swarm, but you cannot be certain. If you find sealed queen-cells in the hive at the usual season of swarming, a swarm may issue within 24 hours, but not positively.

5. No. It will fly around in the air some yards or rods from the hive, and finally settle on a tree or some other object. After being thus settled, if it starts to sail away, you may take your last, long, lingering look at it—you'll never see it again. Better hive it before it starts off; but you needn't fear its going for some little time; generally it will wait your motion a quarter or half an hour.

6. Pretty hard job, after it has fairly made up its mind to settle on any given spot. If you "shin up" the tree lively with a well-loaded smoker, and smoke heavily and continuously on the spot selected, they may change their minds about settling there. Some induce them to settle on an accessible limb by hanging on it a lot of dead bees strung like beads on a string.

7. Alas, yes. Set the hive out in the blazing sun, hav-

ing it closed up with only a small entrance, and they will be pretty sure to come out. Put them in, and they will probably stay till it gets hot the next day, and then out they'll come again.

8. See answer to question 3.

9. A prime swarm is not likely to come out in bad weather, but will hardly mind a little cloud or wind, and an after-swarm may come out in almost any kind of weather.

Cover for Over Brood-Frames—Slow Breeding.

1. What would you use besides the thin board cover in your hives, over the brood-frames, to keep the bees warm in the spring? The dovetail hives that I have do not fit so tight but some cold air gets thru in the spring.

2. What would you do with a colony of bees that do not seem to breed fast enough in the spring to expect them to gather any honey, such a colony having honey enough so as not to need feeding? WISCONSIN.

ANSWERS.—1. Most of my hives have the plain board cover, which is not very thin, ⅞ inch, and that is the only thing over the top-bars. Something warmer would be better, and I have in use (expect to have more) 50 covers that are made with a dead-air space in them. The worst thing about the ordinary plain board cover is that in time it will warp and twist so it will not lie close on the hive. However, you ought not to have much trouble in spring, for the bees will fill with glue all openings in the fall, and they should at that time be so well stored with honey that they will not need to be opened early in spring.

2. If they have all the brood the bees can cover, that's all you can expect. If they could cover more brood than they have, you may hurry up matters in more than one way. The frames that have brood very likely have a border of sealed honey above the brood; uncap or bruise this, so the bees will empty the honey and allow the queen to replace it with eggs. If there is no honey over the brood, put next to the outside frame of brood a comb of honey with the cappings broken. Another way is to lift out the middle frame of brood, and turn it end for end. Or reverse one or both of the outside frames of brood. But remember, remember, that you may do a lot more harm than good by meddling with the brood-nest in cool spring weather, or at a time when a cold snap may come after your meddling.

The National Pure Food and Drug Congress.

BY REV. E. T. ABBOTT.

THE third annual meeting of this congress, which was held in Washington, D. C., March 7, 8 and 9, was in many respects the most interesting and profitable meeting that has ever been convened for the discussion of the subject of pure food.

The writer, who went to represent the interests of the National Bee-Keepers' Association, made the trip over the lines of the Missouri Pacific and the Pennsylvania railroads. As both of these lines are thoroly equipt for the handling of passengers, and have a national reputation for speed and comfort, it is not necessary for us to say that the ride was as pleasant and enjoyable as any railroad ride can be.

As we reacht Washington at 1:30, and the congress was called to order at noon, we did not hear the addresses of Secretary of Agriculture Wilson and his assistant, Secretary Brigham, but we heard both of the addresses spoken of in the highest terms. A number of excellent addresses were delivered, and among the many speakers was Senator Mason, of Illinois, and a number of congressmen from various parts of the United States. Several valuable additions were made to the ranks of pure-food advocates, and among them were two congressmen from our own State—Champ Clark and C. F. Cochran. We think we are safe in saying that the friends of pure food can depend upon Mr. Cochran's splendid ability being thrown on the right side when the final battle comes on the floor of the house. He made a ringing speech before the Food Congress.

One of Mr. Clark's sallies was as follows: "I regard this pure-food congress of vaster importance than even a national political convention called for naming a president, for we can live in this country under almost any kind of a president, as has been demonstrated within my recollection. But we can't live without food. There is no doubt but that a man's eating has a lot to do with his top piece."

Altho this is only his second term in the house, there is probably no man on the floor who can command a more respectful and attentive hearing than Mr. Cochran. He has the reputation among his fellow members of being thoroly posted on all public questions, and of never talking simply for the sake of being heard, so that when he does speak his hearers always expect him to throw some new light on the subject under discussion, and they are seldom disappointed. Mr. Cochran is a man who attends very closely to the business he has in hand, so that he is always found in his seat during the sessions of the house, looking closely after the interests of his constituents, and the "common people" in every part of the United States. Just now there is a heated campaign going on in his own district, and most men in his situation would be at home looking after their "political fences," but he prefers to stay in Washington and attend to the business of the people who sent him there.

The thing of most importance to our readers is to know what the Food Congress did. First, they raised nearly $600 on the floor of the congress to wipe out a debt which had accumulated on the hands of the executive committee during the year for necessary and unavoidable expenses.

Second, they made some slight changes in the Brosius Bill, as it was drafted by the congress of two years ago. These changes were thought necessary after mature deliberation, to strengthen the bill and render it more effective if it ever becomes a law.

Third, we fought to a finish one of the most exciting and closely contested fights that the writer has ever witnest in a deliberative body. There was an attempt made by some parties who had never before attended a meeting of the congress, to sidetrack the Brosius Bill and substitute one of their own making, known as the "Babcock Bill," in its place. They came prepared for "war," and they got it from start to finish. We are glad to say that when the finish came the Babcock Bill was hung up high and dry, and the Brosius Bill was pusht to the front stronger than ever.

The main secret of the enthusiasm for the Babcock Bill was that it hangs out several political plums for the enthusiastic henchmen, while the Brosius Bill does not offer anything of the kind, but leaves the execution of the law in the hands of the secretary of agriculture, where it should be.

One quotation from the Babcock Bill will show clearly that it proposes to place dangerous power in the hands of one man, who is to be known as "food commissioner," at a salary of $5,000. It reads as follows: "The food commissioner is here authorized to cause all compound, mixt or blended products, not only to be properly branded, and prescribe how this shall be done, but he may designate the color or colors and shape of packages, labels, printing, and wrappers containing the same." When we think of putting such dangerous power in the hands of any man, and then of the temper of the man who was slated, according to the program of these would-be reformers, for this position, we feel like saying, "Praise God that the Babcock Bill was not a go."

We now call upon all bee-keepers, and all who believe in fair play, and all who believe that the secretary of agriculture is competent to fill the position to which he has been appointed, to write to their congressman at once and urge upon him the importance of supporting the revised Brosius Bill as indorst by the National Pure Food and Drug Congress to the exclusion of all others; for there will no doubt be an attempt to get the infamous Babcock Bill substituted for the Brosius Bill in the house and senate. Simply say, "Pass the revised Brosius Bill," and sign your name. Every congressman will know what that means when he gets it on a postal card from one of his constituents.

We thought we would tell more about the congress this time, but we have said enough for the present. The time for talking has gone by, and the time for action has come. The time for the people to act. DO IT NOW.

We might say in conclusion that the house committee on interstate and foreign commerce invited the food congress to a hearing before them, and we appeared there over one hundred strong. A number of speeches were made by different members of the food congress. The writer had the pleasure of presenting the subject of pure food in behalf of the bee-keepers of the United States. We were greatly pleased by the thoughtful attention which the committee gave to all the speakers, and the deep interest which they manifested in the subject of pure-food legislation. This hearing can not fail to be productive of much good to the country.—Modern Farmer.

AMERICAN BEE JOURNAL
ESTABLISHT IN 1861 OLDEST BEE-PAPER IN AMERICA
DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS

PUBLISHT WEEKLY BY
GEORGE W. YORK & COMPANY,
118 Michigan Street, Chicago, Ill.

[Entered at the Post-Office at Chicago as Second-Class Mail-Matter.]

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IMPORTANT NOTICES:

The Subscription Price of this journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "Dec00" on your label shows that it is paid to the end of December, 1900.

ubscription Receipts.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows you that the money has been received and duly credited.

Advertising Rates will be given upon application.

VOL. 40. MARCH 29, 1900. NO. 13

EDITORIAL COMMENTS

NOTE—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

The Hive Question—A Correction.—An editorial in a former number of this journal, referring to the views of L. Stachelhausen as given in Gleanings in Bee-Culture, says he was led to the conclusion "that for extracted honey a large hive is best, and for comb honey a small one." Referring to this in Gleanings, Mr. Stachelhausen says:

> "Certainly I did not mean to say this. For the welfare of the bees and their proper development it makes no difference whether the bee-keeper extracts the surplus honey or takes it off in the form of filled sections. If a small hive is ill-fitted in this respect for extracted honey, it can not become better for comb honey. By the present management we can not use the advantages of large hives in producing comb honey, so we can form only one conclusion, and that is, *the present management is incorrect.*
>
> "The problem is to find out a management by which all advantages of large hives can be utilized, and at the beginning of the honey-flow to get the colony in such a condition that the work in supers is started at once, and all the honey stored there—that is, to get the brood-chamber in the best possible condition."

Alsike Clover.—The Warren (Ind.) Republican contains an address by Dr. I. A. Smith, in which he discusses alsike clover in a somewhat exhaustive manner. He makes a bushel of seed sow about 8 or 10 acres, and says:

> "As I sow chiefly with oats as a nurse crop, my rule is to wait until March 25 before sowing my oats. After this time I begin sowing as soon as the soil is in suitable condition, using shallow cultivation, never plowing immediately before as some do, but usually by disking, dragging and harrowing, so as to get the surface fine and mellow, the finer the better, and sowing the clover behind the finishing harrow, being sure, wind or no wind, to sow before any rain falls upon the freshly harrowed soil; this is very important. If the land is in suitable condition, as in case of having been fall or winter plowed, I prefer to use a good, sharp drill for putting in the oats, and sow the clover immediately behind the drill; I have had the best success in this way."

Alsike stands drouth and close grazing better than red clover, and heaves less with freezing. When firmly establisht it may be freely pastured till early September. Many fields have kept in thrifty condition for three years, one field for five. A persistent stand is favored by cutting the first and pasturing the second. It should be cut in full bloom, but later cutting is not so objectionable as with red clover. He considers it a better fertilizer than red clover

Rietsche's Foundation Press has obtained a popularity that is surprising to an American, there being now 16,000 such presses in use. In this country comparatively few bee-keepers make their own foundation, the number of such being perhaps less now than a few years ago. Germans are probably more saving of outlay, but another item makes a difference that would not generally be suspected. It is that a bee-keeper in Germany who does not make his own foundation may buy that which is adulterated. Such a thing is never suspected in this country, the manufacturers of foundation being entirely reliable. Adulteration is not all confined to America.

"No Wax-Moth in Colorado."—Prof. C. P. Gillette, of the State Agricultural College at Ft. Collins, Colo., sends us the following about the moth that infests comb honey there:

> On page 154, I notice that Mr. Aikin and Mr. Rauchfuss state that the wax-moth does not occur in Colorado, and Mr. Rauchfuss can not understand why people should claim that Colorado honey is sometimes infested with these insects.
>
> It seems to me that two insects are probably being confused. So far as I know, the old-fashioned wax-moth does not occur in Colorado, but there is a smaller moth that is generally distributed over the country, commonly known as the Mediterranean flour-moth, which I have repeatedly seen infesting honeycomb. The larvæ of this insect do not seem to care for wax or honey, but feed upon pollen, and perhaps propolis as well. The larvæ are sometimes quite troublesome on stored frames of old comb, and I have seen them in crated sections of comb honey.
>
> Both the larvæ and the moths of this species are considerably smaller than the old wax-moth.
>
> C. P. GILLETTE.

Uncapping Honey in the Spring was recommended in a paper by D. W. Heise at the Toronto convention, and reported in the Canadian Bee Journal. When there are yet only two to four frames of brood in a colony, he raises each of these frames sufficiently high so the honey along the top-bars and in the corners can be uncapt. This helps the bees to the honey, and allows the queen to fill the comb with brood to the top-bar. If there is no honey between the brood and the top-bar, he places a comb of honey next the brood on each side, first uncapping it. In the discussion following, Mr. McEvoy said:

> "I have followed the uncapping system off and on for 17 or 18 years, and I have made it pay after I got right into it and understood pretty near how to do it, but I have had it go the other way at times. I have always made it pay between fruit-bloom and clover. There is a gap at that time in most localities, and it pays to uncap some. I have uncapt sometimes too much, and have made a mistake, but just to uncap two or three combs in an evening in the bare time in order to supply them with unsealed stores and to feed the larvæ, in this way I get the honey used up rapidly,

and I increase in bees. A little later on I uncap more. Old bees will not uncap the old sealed honey fast enough, when they are caught suddenly, to keep pace with the amount of larvæ on hand; then it pays to look after uncapping or bruising.

"This year (1899) I went thru the colonies three times between fruit-bloom and clover, and with 95 colonies I had it so arranged that almost every frame was filled with brood clear up to the top-bar, and from end to end to the outside wall. Did it pay? Yes; I never did anything in my life that paid so well. I would not advise every one to do it; some might go on a morning of a spring day when there was not much required and uncap too much. You must use judgment."

Selling Candied Honey is nowadays advocated by a number, the idea in general being that the consumer shall be educated to liquefy it. J. H. Martin, in Gleanings in Bee-Culture, brings out a point that may be worth considering. There are some who prefer honey in the candied state (possibly their number might be found greater if honey were always sold in that condition), and those who eat candied honey by preference eat more of it than they would of the liquid.

The Age at Which Young Bees Become Field-Workers is generally called 16 days, but there is by no means unanimity of opinion on the subject. L. Stachelhausen discusses it in Gleanings in Bee-Culture. He thinks it depends upon the condition of the colony. Prof. Menzel found bees commencing to gather pollen when 18 days old; Berlepsch found in three experiments the first gathering on the 16th day, and a few years later he observed them on the 19th day. Doenhoff found the 19th day. Others the 12th and 14th. A. I. Root said about two weeks, but if necessary when only 5 or 6 days old. Neither is there agreement as to the average length of life of workers in the busy season. It is given all the way from 30 to 45 days. The age at which larvæ are sealed is another disputed point. Menzel, Cowan and Vogel give it at 5 days. Greiner, 5½; Langstroth, 6; Root, between the 6th and 7th day.

The Weekly Budget

Hon. Eugene Secor, General Manager of the National Bee-Keepers' Association, has been appointed judge of the apiarian exhibits at the Minnesota State Fair next fall. "Judge" Secor will give entire satisfaction to the Minnesota bee-keepers. He always does.

* * * * *

Mr. J. H. Martin says in Gleanings in Bee-Culture that Belgian-hare growing has grown to be a business of importance, the head center of the business being at Los Angeles, Calif. A number of bee-keepers have given up bees for hares, and Mr. Martin thinks the two industries might well be combined.

* * * * *

Messrs. R. McKnight and J. B. Hall.—The Canadian Bee Journal for February contains this paragraph from the pen of Mr. D. W. Heise, which refers to an incident at the last Ontario convention:

"Whatever justification there may have been for the unpleasant things that were said about Mr. McKnight's opposition to certain convention proceedings in the past, he truly endeared himself to every bee-keeper's heart when he brought his 'appropriate and inspiring' motion that J. B. Hall has been the 'life and soul' of its conventions. And what J. B. Hall has been to the conventions, R. McKnight has been to the Association; and no one can recognize that fact more forcibly than the members who were associated with the earlier history of the Association. And I feel sure that the present members are not so forgetful, or so void of appreciation of valuable services rendered, but what they will in the near future, in some way reward him for his services."

* * * * *

Stenog Approves the "Old Reliable."—He says:

"Mr. York deserves great praise for the excellence of the mechanical part of his journal. Its freedom from typographical mistakes is quite in keeping with the high moral tone of the journal."

Coming from the man who is mainly responsible for the fine mechanical appearance of Gleanings in Bee-Culture, such endorsement pays for a good bit of effort.

* * * * *

Mr. T. F. Bingham—the bee-smoker man—has sent us his new smoker made of brass instead of tin, and with the nozzle hinged on. It is a beauty, tho we believe we would prefer it made of tin in the usual way. We think the brass is not so stiff as the tin, but it will likely not burn out so soon, and will not rust. But if a Bingham smoker made of tin lasts 15 years, what more does anybody want? Surely, any bee-keeper would want a *new* smoker at least two or three times during his life.

* * * * *

Mr. Frank McNay, now in Los Angeles Co., Calif., wrote us March 18, as follows:

Friend York:—There has been only one light rain (about one inch) here since Jan. 3, and bee-keepers have given up hopes of a honey crop from sage, and are moving to the irrigated alfalfa sections, as that is about the only prospect for a honey crop in Southern California this season.

I expect to return to my Wisconsin apiaries about May 1.
Frank McNay.

* * * * *

The Chicago Bee-Keepers' Association, as announced on another page, will meet in Wellington Hall, 70 North Clark St., Chicago, Friday afternoon and evening, April 6, beginning at 1 p.m. (April 6 is the correct date, as the hall was engaged for the day before). Dr. C. C. Miller expects to be here; Editor E. R. Root writes that he will make an extra effort, and, if nothing interferes, "will be on hand." F. A. Snell says: "I shall aim to be present, if I can do so." J. A. Green wrote: "It is quite possible that I may attend the meeting." F. Wilcox, of Wisconsin, says: "I may be able to get away to your convention." Dr. Mason and Mr. Secor both wrote that they would try to write and send a paper on "What can local bee-keepers' associations do to help the National?"

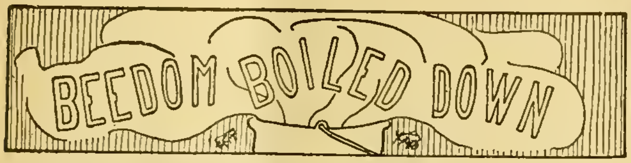
It is expected that there will be a large attendance, particularly from this (Cook) and adjoining counties. No special individual notices will be sent out by Secretary Moore, as it is thought best to let the announcements in these columns suffice for this time. Let all come who possibly can do so, and help make it the best meeting ever held by the Chicago Bee-Keepers' Association.

* * * * *

Editor Leahy, of the Progressive Bee-Keeper, has more experience than he had six or eight years ago, along the line of publishing bee-papers. We recently announced the "passing away" of the Western Bee-Keeper, and exprest our regret that there should be any one so bereft of reason as to think of starting a new bee-paper these days. As a comment on this, Editor Leahy wrote thus in the last number of his paper:

"Don't do it, friends. It will only use up your surplus money, and you will be glad to get some one to help you let go. The Progressive was run at a loss three years before we assumed control. We ran it at a loss for two or more years; then two or three years more it barely paid expenses; and now, after ample experience, we are satisfied that the same money and time invested in almost any other legitimate business, would pay much better."

Mr. Leahy, in the same editorial, rather disapproved of our "jumping onto something that is dead"—referring to the Western Bee-Keeper. Wouldn't it hurt anything worse to "jump on it" when it is alive, or nearly dead, than to wait until it is past feeling? Of course, it is often a mercy to help hasten the death of some things, and yet if we had done that, some people would have unjustly accused us of being jealous of the poor little Western Bee-Keeper.



Honey-Poultices.—For boils, carbuncles, abscesses, etc., and for injured bones, mix the honey with flour, and spread on a piece of linen rag. If the abscess is coming to a head, cut a hole in the center of the rag to allow of free discharge of matter. Honey added to an ordinary bread-poultice will answer the same purpose, or it may be used in conjunction with linseed-meal poultices; it will render them more emollient.—British Bee Journal.

Weak Colonies in Spring.—J. B. Hall says in the Canadian Bee Journal:

"My experience of over 20 years is that if you take weak colonies and put them into three you will still have three weak colonies; if you shut them down and don't meddle with them at all there will sure to be some of them that will come up and be good colonies, and the others that are no good will die out, and if you put them together one of the poor queens may be saved. We don't open them except they are hungry; we don't open a colony of bees in our yards until the fruit blossoms. We let weak colonies die if they choose."

More Hopeful of Cuba.—Editor Hill refers to the report of G. Rockenback in this journal as the bluest yet given, and says:

"Reliable information in regard to the apicultural outlook in Cuba is now of interest to bee-keepers everywhere, and it is gratifying to note that resident producers of honey take a much more cheerful view of the situation than the Journal's correspondent, whose article clearly shows that he would not be clast in the language of the hour, as an 'up-to-date bee-keeper.'"

If Mr. Rockenback's testimony is thought hardly reliable, what will Mr. Hill do with Harry Howe's, which was given on page 185, last week? Mr. Howe's simply corroborates Mr. Rockenback's, or is even stronger.

Reform Spelling in Gleanings in Bee-Culture is given up for the present, and a Stray Straw says:

"Now that immediate danger of violence to English spelling in Gleanings is no more, and that Mr. Wanser, who wants spelling progress to 'emanate from our public schools and colleges,' may not be too severe if he should happen to see 'honor' for 'honour,' or 'clipt" for 'clipped,' it may be well to say that the changes he opposes with so much earnestness have not emanated from a few cranky ignoramuses, but *have* emanated from colleges. The changes were recommended by some of the most eminent scholars of America and England, among them professors in Yale, Harvard, University of Pennsylvania, St. Johns, Columbia, etc., in this country, and, in England, in Oxford and Cambridge."

Fertilization of Fruit by Bees was discust by Frank Benton at the Ontario Co. (N.Y.) Bee-Keepers' Convention, as reported in Gleanings in Bee-Culture. In part, he said:

"An apple-blossom has many stamens, and the pollen is produced at the extreme end of each one, forming there an enlargement called 'anther.' A single anther contains one million or more grains of pollen, of which but five are needed for the fertilization of one blossom. A raspberry blossom is built differently from the forenamed one. The raspberry (fruit) is composed of some 200 separate little sections, each containing a seed, and so the blossom is constructed in a like manner. What will later be the fruit is already present in an embryo state, 200 little sections in miniature, and from each of them protrudes the pistil, like a fine short hair. A grain of pollen must be conducted thru every little hair—really a tube, the end of which is receptive thru the organ called 'stigma.' A bee, after alighting on a blossom of this kind in search of honey, which is to be found at the base of the blossoms, rubs over the anthers with its body, which is covered, especially on the under side, with many hairs of a compound feather-like nature, and becomes covered with the pollen-dust. Whirling around, first one way then another, in order to reach fully all the nectar-secreting glands, it brushes again and again over the 200 protruding pistils. One bee after another visits the same blossom at short intervals as long as the secretion lasts; and in time every one of the stigmas receives its grain of pollen, and a perfect fruit results.

"During the earlier part of the season, when pear and apple trees bloom, the weather is often unfavorable for pollination—the pollen remains too moist and sticky. In such a case, not much fruit can set. Should the sun come out for but an hour, the pollen becomes dry. The bees turn in; and the more numerous the bees are, the more fruit will set. There may be seasons when fruit would set abundantly without the help of the honey-bees. In an unfavorable season, however, they are an absolute necessity. Cross-fertilization is strictly necessary for raspberry, gooseberry, and huckleberry. When the bee visits a blossom of the last-named kind, and pushes its body into the bell-shaped flower, it seems that the stamens are so arranged that the white pollen is dusted upon the head and thorax of the bee. The bee is unable to remove the dust from these places; and when the next blossom is entered, the head and thorax of the bee come in contact with the stigma first, and before the anthers are toucht, and in this manner cross-fertilization is assured.

"It would take too much space to go thru the long list of flowers benefited by bees. However, bees are not the only agents to perform this work. There are other insects and the wind. In the early springtime bees are most numerous, and therefore indispensable."

Cure for Bee-Paralysis.—After many trials with different drugs I found ultimate success with a mixture of sulphurous acid and tincture of podophyllin in the proportion of one of the former to four of the latter. I wanted a purge and an antiseptic for after effects, or in other words, something that would expel the excrement and leave the intestine in a condition afterwards not conducive to the growth of bacilli.

To ½ ounce of this mixture I added one pound of extracted honey heated to 90° Fahr., and then with a mouth-spray I daily sprayed combs, bees, brood, etc., as I took frame after frame out of a diseased hive. I applied the remedy in this way, as I found it the easiest to get the bees to take the medicated honey, each cleaned up her neighbor and combs, and thus unintentionally imbibed the dose required. Result: In from 3 to 5 days a clean, healthy hive.—The Australasian Bee-Keeper.

Artificial Increase.—When an increase of not more than 50 percent is desired, with a chance for a goodly store of surplus, the following excellent plan is given in Gleanings in Bee-Culture, by G. M. Doolittle:

"About 8 to 10 days before your expected honey-flow, go to a populous colony, which for convenience we will call No. 1, and shake all the bees and queen from their combs into a hive filled with empty comb or frames filled with foundation, placed where the old one stood, placing the surplus arrangement from the old hive on the colony thus made. In this way you have a strong colony containing all the bees and queen from one of your very strongest colonies, a hive full of comb or foundation, and the partly filled sections from No. 1, all being in readiness to take advantage of the harvest as soon as it comes. Now take the combs of brood taken from No. 1 to No. 2, and set them on No. 2's stand, having previously moved No. 2 to a new stand a rod or two away. Just before setting the combs on the stand of No. 2, go to one of your nuclei and get the comb the queen is on and take it, bees and all; and as soon as the combs are on the stand of No. 2, shake the bees and queen from it in front of the hive on No. 2 stand, and let them run in with the bees from No. 2, now hovering about trying to find their old home. Put sections on this hive, and the work is done. Thus you have a colony composed of a full hive of combs and brood, a good young queen, and workers to protect her, and all the field or working force from No. 2, which make a big, strong colony ready for business as soon as the honey harvest arrives. No. 2 has a hive of combs and brood, their old queen and sections partly filled, but they have lost their working force. In from 8 to 10 days they are quite well stockt with workers again, when they are also in fine shape for the harvest which is now on.

"I have told you this plan at length as you wisht it made plain, and because I consider it the best plan of artificial increase in existence. If you wish a greater increase, go thru the same operation again just after the harvest, less the sections, and see that No. 1 is fed in some way, or supplied with combs of honey."

Root's Column

GLEANINGS IN BEE-CULTURE.

THERE are some things every bee-keeper must have, and we believe no one can expect to succeed as a bee-keeper without reading one or more good papers devoted to this industry. Gleanings in Bee-Culture will not only keep you posted on all important topics but is always on the alert to bring to its readers' notice new methods proposed by able writers, new implements for labor saving, and everything by which a larger and better crop of honey can be secured. We believe it pays to use a superior quality of goods, and there is no doubt but what improvement can be made in the appearance of honey by use of the BEST methods. Gleanings tells you of all these and tells you where to market your honey after you get it, by our HONEY COLUMN. Our market reports are ALWAYS UP-to-date, and can be DEPENDED upon. We know of many bee-keepers losing a good crop of honey by sending it to some irresponsible party. Avoid this by subscribing to Gleanings and getting the best MARKET REPORTS.

Some bee-keepers like to take a bee-journal during the honey season only; some want to try it a few months before subscribing for a longer time. To accommodate such we offer Gleanings in Bee-Culture SIX months beginning April 1st for ONLY 25 CENTS. There will be many important things brought out in its columns during the coming six months. Do not fail to send an order at once for this time.

If you wish to subscribe for a whole year, we shall be glad to have you avail yourselves of any of the following:

Special Offers for New Subscribers.

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Gleanings in Bee-Culture, 1 yr	$1.00	
The Prairie Farmer, 1 yr	1.00	All
The Poultry-Keeper, 1 yr	.50	for $1.00
Regular price of all	$2.50	

(If you wish we can substitute the Reliable Poultry Journal for Poultry Keeper.

Offer No. 13.

Gleanings in Bee-Culture, 1 yr	$1.00	
The Prairie Farmer, 1 yr	1.00	All
McClure's Magazine, 1 yr	1.00	for $1.75
Regular price of all	$3.00	

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The ABC of Bee-Culture, 1 copy	1.20	All
The Prairie Farmer, 1 yr	1.00	for
The Farm and Home, 1 yr	.50	$2.00
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Offer No. 15.

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THE A. I. ROOT CO., Medina, Ohio.

GENERAL ITEMS

Wintering Well—No Snow.

Bees are wintering finely. We have no snow, and have had but little this winter. When the west had the blizzard, and were buried up in snow, we had a warm rainstorm.

HENRY ALLEY.

Essex Co., Mass., March 15.

Changeable Weather.

It looks very much as if we are just now getting our winter in this part of the State. We had had but very little snow thus far this winter until to-day we have 7 inches and the merry sleigh-bells can be heard far and near, with the thermometer hovering around zero. Bees are not wintering very well, as the weather has been very changeable, with the thermometer up in the 60's one day and the bees flying as in early spring, with a sudden change to a cold wave in 24 hours of from 30 to 40 degrees. My loss of bees will be greater than last winter, but I hope that we will soon have nice weather.

W. H. HEIM.

Lycoming Co., Pa., March 16.

Bees Doing Well.

Last spring, I had two colonies of bees; I increast them to four, and got some honey, tho a poor season. Bees seem to be doing well, and flying freely on fine days. We are having a regular blizzard now; it has snowed all day, and is still at it—12:45 a.m.

WM. A. SHUFF.

Philadelphia Co., Pa., March 16.

Prospects Not Flattering.

I got 6,000 pounds of extracted honey last summer from 100 colonies, spring count, which sold readily at 7 cents a pound. I started in the winter with 110 colonies, and have lost 3 during the winter, so I now have 107 apparently in good condition. The prospect for a crop of honey this year is not very flattering, as I am afraid the white clover, which got such a nice start last summer, is all killed out this winter.

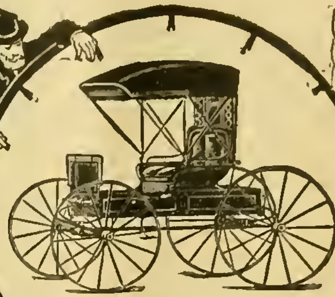
F. B. FARRINGTON.

Clayton Co., Iowa, March 20.

Bees Appear All Right—Bee-Proof.

My bees appear to be all right as yet. They were very lively about a week ago. I have 20 colonies outdoors. I think they are better off outdoors if they are properly cared for. I always take the cover off in the fall, and pack them in leaves, and never lost any that way. I had 17 colonies last spring, and got about 1,200 pounds of honey, comb and extracted. I extract only in the fall, then I kill all the surplus colonies that are not strong for the winter. I am going to feed as soon as they have another flight. I feed outdoors and let them go for it as they please. I have a very fine lot of Italians; if any get crost with black drones I kill them in the fall. It is no use to keep more than

Sharples Cream Separators: Profitable Dairying



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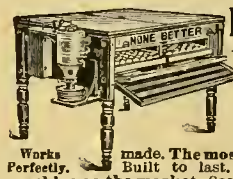

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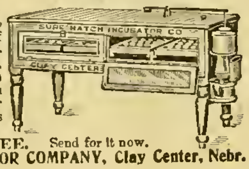

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one needs. I sometimes let them swarm and sometimes divide.

I have been used to bees about 70 years. I had a dose of their sharp ends last summer. A swarm settled on a post entangled with grape-vines. I could not brush them off, so I set the hive and sheet at the bottom of post and gave it a kick, and down went the bees, then up and at me. I stept back; my hat and veil caught on a plum bush, and I should think half the swarm on my head, face, and all over me. I ran and dropt my head in a tub of water, went into the house and got Mrs. White to pull out the stings—about 500 or more on my face, hands, and all over. But I went and hived them afterwards, and it never swelled nor hurt me one bit. The milkman came for milk, and the bees chased him and his horses away; so you see I must be bee-proof.

HENRY WHITE.
Humboldt Co., Iowa, March 21.

A New York Report—Black Brood.

The bees are sleeping and the weather is very cold. If I recollect I promist to report the season of 1899, and will now try to do so.

In the spring of 1899 the season opened with all prospects for a good year, but ended just the reverse.

In February (1899) I came to this State, with all hopes and expectations of seeing the largest honey crop in the country, and took up my quarters with Mr. Frank Boomhower, of Schoharie County—a noted bee-keeper who has produced honey by the tons for years. I expected to engage in the bee-business as fast as means would permit, but lo, my hopes were like some of those of Rambler's—they were blasted.

After arriving at Mr. Boomhower's we began making hives and all necessary fixtures to handle a large crop of honey. Over 200 colonies of bees were bought up thru the country from farmers, and out-yards establisht, until at least 450 colonies had been gathered to our fold. Most of these were in box-hives and on odd-sized frames of every description. After these bees were moved to our yards a picnic began in transferring, which was playwork for us. N. E. Boomhower, the oldest son of F. Boomhower, and myself, transferred as high as 72 colonies a day from these old traps, to an up-to-date hive. No combs were transferred, but the bees were put on full sheets of foundation. All this was done and waiting for the harvest to come. We continued to manufacture extracting-supers, etc., but alas, dry weather set in and buckwheat was a small crop, and the honey crop was also small, only about 18,000 pounds being secured.

We were in the heart of that dreadful disease known as New York bee-disease, or black brood. Many called it foul brood, but some have decided not to call it foul brood, and Dr. Howard has named it black brood. Call it what you will, it is undoubtedly a very destructive disease, and has wiped out most of the bees in this neighborhood. I never saw foul brood, but from the description this so-called black brood resembles foul brood very much; it makes its appearance mostly in the unsealed larvæ, and at first it appears to show in the center of the white grub a small, yellowish dot on the larva, and finally this larva becomes yellow, some

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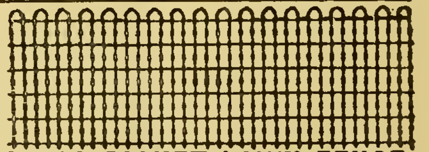

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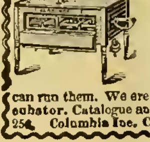

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more so than others, and then it turns darker and darker, and at last is almost black, after which it dries down to an almost invisible object. It spreads as if by magic, and seems to be very contagious. As a rule it makes its appearance first among black and hybrid bees, the Italians almost always being the last to be affected. Sometimes in our yard a colony of Italians would be free from it, and in a flourishing condition, when surrounded by colonies rotten with the disease. Our bees were mostly destroyed to prevent its spread, and even water that we washt our hands in while working with the bees or honey, was not allowed to be thrown where the bees could get it. In spite of all this, over 200 colonies have been destroyed, and many hives and fixtures have been burned.

I hope and trust that the disease will die this winter, and not make its appearance again in the spring. It has caused many a man to surrender and lose practically all he had in this world to make an honest living. When and where it will stop I can't say, but I trust it has run its time, and will not appear again.

In killing the bees we used brimstone, and I wish to call the attention of Editor Root (a friend of mine) to page 122, where he enquires whether sulphur ever enrages bees. It does. We found by experience that in killing bees with sulphur, now and then a few that escape seem to attack a person very readily; also after having used brimstone in the smoker, and then filling it with fuel, it still has a decided brimstone odor, and bees hate it and show fight at once.

Our outyards were from 9 to 12 and 16 miles from home. The crop was mostly extracted honey.

With all the disappointments of last season, I shall try the bees again this year, with a view of securing a good crop of honey. P. W. STAHLMAN.

Albany Co., N. Y., Feb. 26.

Bees Breeding in the Cellar.

I hope a good many will make careful observations about breeding and not breeding in the cellar. I feel so sure that accurate work in this line will show that breeding in the cellar causes mischief, and that not to breed

HATCHING IN 10 DAYS
would be an improvement on the old way, but WE can't do it. We CAN furnish an **INCUBATOR that will hatch** all hatchable eggs, and do it with less attention than any machine made. It does it because it is made right and has all late improvements. Sold at a low price and guaranteed. Catalogue in 5 languages, 6 cts.
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Excellent material and finest workmanship.
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We have been fortunate in making an arrangement with DR. C. C. MILLER—the well-known honey-specialist—to rear queens **EXCLUSIVELY FOR US DURING THE SEASON OF 1900.** These Queens will be mailed in rotation, beginning about June 1, so "first come first served." We are ready to book orders now.

The Queens Dr. Miller will send out on our orders will be precisely the same as those he rears for his own use, so of course they will be from his best stock. His best colony in 1899 had a queen reared in 1898; May 5, 1899, it had brood in 4 frames, and he gave it at that time a frame of brood without bees. It had no other help, but May 25 a frame of brood with adhering bees was taken from it, and the same thing was repeated June 3, leaving it at that time 5 frames of brood. It stored 178 sections of honey, weighing 159 pounds (and that after July 20, in a poor season), being $2\frac{2}{3}$ times the average yield of all his colonies. A point of importance is the fact this colony did not swarm, and an inspection every week or 10 days showed that at no time during the entire season was there even so much as an egg in a queen-cell. Dr. Miller expects to rear queens from this one during the coming summer.

The demand nowadays is for **BEES THAT GET THE HONEY** when there is any to get, and Dr. Miller has such bees. You will want to have a queen from his best, we are sure.

Do not send any orders to Dr. Miller, as all orders **MUST** come thru us, according to our agreement.

Remember, send us $1.00 for **ONE NEW SUBSCRIBER** to the American Bee Journal for one year, and **YOU** will get ONE OF DR. MILLER'S UNTESTED HONEY-QUEENS FREE AS A PREMIUM. This offer is made *only* to our present regular subscribers. Orders for queens to be filled in rotation, beginning about June 1st.

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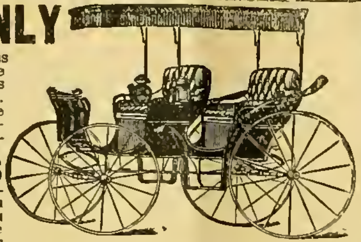
No. 130—Double Buggy harness, with nickel trimmings. Complete with collars and hitch straps, $22. Good as sells for $30.



No. 717—Canopy-Top Surrey, with double fenders. Price, complete, with curtains all around, storm apron, sunshade, lamps and pole or shafts, $75; just as good as sells for $40 more.

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Langstroth on... The Honey-Bee

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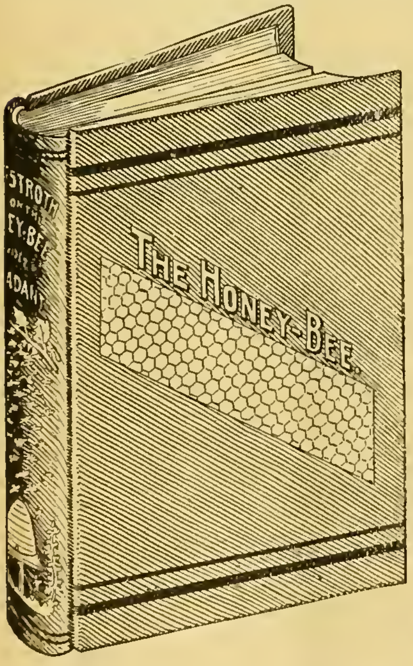

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Last spring (1899) I ordered queens from five different queen-breeders and among them one queen from you. The bees from your (Adel) queen gathered more honey than all the others put together. (Signed) S. N. SMITH, M.D.

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in the cellar conserves all the forces and feed of the bees until spring, with which to outstrip those that have been breeding. S. T. PETTIT.

Ontario, Canada, March 23.

Report for Last Season.

My bees have wintered in fine shape, and are working nicely. Last year I lost one-half of my bees on the summer stands without any protection. I had 16 left, and they averaged 66⅔ pounds of comb honey, and increast to 20, so I now have 36, and everything looks encouraging. I made by hand 150 hives with supers complete. I think that pretty good for a man 62 years old. W. T. WRIGHT.

Nez Perces Co., Idaho, March 17.

Bees Wintered Well.

Bees have wintered well here. We had a good crop of honey in 1899. I increast from 6 colonies to 15, and got 380 pounds of comb honey. I have lost two colonies this winter.

W. P. BRANSON.

Decatur Co., Kan., March 16.

A Beginner's Report.

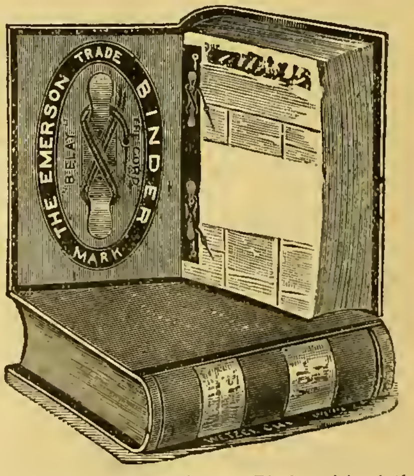
I came thru the winter of 1898 with 1 colony out of 4; in the harvest of 1899 I took off 70 one-pound sections of honey, and had no increase. I have now 3 colonies, having bought 2 at $2.50 each. H. C. SPRINGER.

Story Co., Iowa, March 21.

Mild Winter—Beautiful Weather.

We have had a mild winter, and the weather is beautiful at present. The bees are flying strong, and are bringing in pollen; they also appear to be getting a little honey. I have had

The Emerson Binder



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honey set out for over a week, and so far the bees have not toucht it. The weather is like the month of May, the buds and a few blossoms are coming out and the indications are for an early dry spring; but if the irrigation waters hold out the honey-flow will be all right. E. S. LOVESY.

Salt Lake Co., Utah, March 9.

Seem to Winter Well.

Bees seem to winter well. There is but very little sign of diarrhea, and less dead bees on the cellar-bottom than usual. The past 4 weeks we had about one foot of snow, and good sleighing, but the past week the snow turned into ice; river and creeks were full to their banks, but are going down now in this cold snap. C. THEILMANN.

Wabasha Co., Minn., March 15.

Convention Notices.

Texas.—The Texas State Bee-Keepers' Association will hold its 22nd annual convention in Greenville, Wednesday and Thursday, April 4 and 5, 1900. A cordial invitation is extended to all. No hotel bills to pay.

Blossom, Tex. W. H. WHITE, Sec.

Chicago.—The Chicago Bee-Keepers' Association will hold its regular semi-annual meeting in Wellington Hall, 70 N. Clark St., Chicago, Ill., April 6, 1900, afternoon and evening. The meeting will be called to order at 1 p.m. Dr. C. C. Miller is expected to be present if his health will permit. Mr. E. R. Root has been invited, also Mr. N. E. France, and others. A good time may be expected by all. Let every one come, especially the ladies.

Park Ridge, Ill. HERMAN F. MOORE, Sec.

Utah.—The Utah State Bee-Keepers' Association will hold its semi-annual convention in the City and County Building, Salt Lake City, Apr. 6, 1900, at 10 o'clock a.m. A full program in the interest of the industry will be presented, and all our bee-keepers can help themselves by aiding the Association, and in order to create a closer bond of union among our bee-keepers. As a further incentive to the success of the bee-industry, it is very desirable to have our bee-keepers from all parts attend the spring convention. J. B. FAGG, Sec.

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Bee-Keepers' Guide, or Manual of the Apiary, by Prof. A. J. Cook, of the Michigan Agricultural College.—This book is not only instructive and helpful as a guide in bee-keeping, but is interesting and thoroly practical and scientific. It contains a full delineation of the anatomy and physiology of bees. 460 pages, bound in cloth and fully illustrated. Price, $1.25.

Scientific Queen-Rearing, as Practically Applied, by G. M. Doolittle.—A method by which the very best of queen-bees are reared in perfect accord with Nature's way. Bound in cloth and illustrated. Price, $1.00.

A B C of Bee-Culture, by A. I. Root.—A cyclopædia of 400 pages, describing everything pertaining to the care of the honey-bees. Contains 300 engravings. It was written especially for beginners. Bound in cloth. Price, $1.20.

Advanced Bee-Culture, Its Methods and Management, by W. Z. Hutchinson.—The author of this work is a practical and entertaining writer. You should read his book; 90 pages, bound in paper, and illustrated. Price, 50 cents.

Rational Bee-Keeping, by Dr. John Dzierzon.—This is a translation of his latest German book on bee-culture. It has 350 pages, bound in paper covers, $1.00.

Bienen-Kultur, by Thos. G Newman.—This is a German translation of the principal portion of the book called "Bees and Honey." 100-page pamphlet. Price, 25 cents.

Bienenzucht und Honiggewinnung, nach der neuesten methode (German) by J. F. Eggers.—This book gives the latest and most approved methods of bee-keeping in an easy, comprehensive style, with illustrations to suit the subject. 50 pages, board cover. Price, 50 cents.

Bee-Keeping for Beginners, by Dr. J. P. H. Brown, of Georgia.—A practical and condenst treatise on the honey-bee, giving the best modes of management in order to secure the most profit. 110 pages, bound in paper. Price, 50 cts.

Bee-Keeping for Profit, by Dr. G. L. Tinker.—Revised and enlarged. It details the author's "new system, or how to get the largest yields of comb or extracted honey." 80 pages, illustrated. Price, 25 cents.

Apiary Register, by Thomas G. Newman.—Devotes two pages to a colony. Leather binding. Price, for 50 colonies, $1.00; for 100 colonies, $1.25.

Dr. Howard's Book on Foul Brood.—Gives the McEvoy Treatment and reviews the experiments of others. Price, 25 cents.

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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, March 19.—We quote best white comb at 15c. An occasional small lot of fancy sells at 16c; off grades of white, 12@14c; ambers, 10@12c. Extracted, 8@9c for fancy white; 7@8c for amber; 6@7c for dark grades. Beeswax, 27c.

Receipts of honey are larger and the demand is not as good as it has been.
R. A. BURNETT & Co.

CINCINNATI, March 3.—There is some demand for extracted honey from manufacturers at 7@7½c for amber and Southern; clover, 8@8½c. Comb honey is selling firm at 14@16½c in a small way. Beeswax, 25@27c.
C. H. W. WEBER,
Successor to Chas. F. Muth & Son and A. Muth.

LOS ANGELES, March 1.—1-pound frames, 12½@15c; 2-pound cans, 2 dozen in case, per dozen, $2.50; 2-pound glass pails, per dozen, $2.50. Extracted, water white, 60-pound tins, per pound, 8½c; light amber, 7½@8c; dark amber, 7½c. Beeswax, 25@26c.

The prospect for a crop is very bad. Small lots in the hands of wholesale houses are firmly held.

BOSTON, March 9.—Our honey market is showing some signs of lower prices, altho the stock on hand is not large. At the same time prices are so much higher than previous years that the trade have taken it very slowly and the results are that the holders are willing to range prices quite a little in order to move stock on hand. Prices range: Fancy white, 17@18c; No. 1, 15@16c; amber, 10@12c; buckwheat almost unsalable. Extracted, best white California, 8½c.
BLAKE, SCOTT & LEE.

KANSAS CITY, Mar. 19.—We quote fancy white comb, 15c; No. 1, 14c; No. 1 amber, 13c; No. 2 amber, 13½c. Extracted, white, 8c; amber, 7c; dark, 6c. Beeswax, 22@25c
C. C. CLEMONS & Co.

BUFFALO, March 3.—Market nearly bare of all grades of honey. Probably no more from any source to market, but if so, fancy white comb is firm at 15@16c. Other grades from 14c downward, with the poorest at 8@9c. Fancy pure beeswax continues at 28@30c.
BATTERSON & Co.

NEW YORK, Feb. 8.—During the past 30 days our market has been somewhat slow and easy in both comb and extracted honey. Stocks of comb honey, however, are almost exhausted, and there is a fair demand for all grades. Fancy white selling at 15c; No. 1 white at 13@14c; fancy amber, 11@12c, and buckwheat at 9@11c, according to quality, etc.

Our market is well supplied with extracted, tho prices are firm and unchanged. Beeswax sells very well at from 26@28c, according to quality. HILDRETH & SEGELKEN.

SAN FRANCISCO, Feb. 28.—White comb, 11½@12½c; amber, 8@10c. Extracted, white, 7½@8c. light amber, 7@7½c; amber, 5@5½c; Beeswax, 26@27c.

Supplies and demand are both at present limited, which is to be expected at the close of a light crop year. Business doing is mostly of a small jobbing character, and at practically the same figures as have been current for some time past.

OMAHA, Feb. 13.—Demand shows some improvement in January, having been much more active, but as anticipated there is no advance in prices. Market remains steady at 14@14½c for fancy white comb and 8½c for white extracted. The latter is pretty well cleaned up along the Missouri River, and it looks as if there would be some shortage before another crop comes in. From present appearances there is about enough comb honey to go around at the present prices, hence we look for no particular change in values. PEYCKE BROS.

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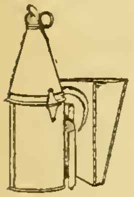

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DROP INKY DROPS.

The perforated steel fire-grate has 381 holes to air the fuel and support the fire.

Prices: Heavy Tin Smoke Engine, four-inch Stove, per mail, $1.50; 3½-inch, $1.10; three-inch, $1.00; 2½-inch, 90 cents; two-inch, 65 cents.

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DOOLITTLE...

has concluded to sell QUEENS in their season during 1900, at the following prices:

1 Untested Queen ..	$1.00
3 Untested Queens..	2.25
1 Tested Queen	1.25
3 Tested Queens....	3.00
1 select tested queen	1.50
3 " " Queens	4.00
Select Tested Queen, last year's rearing	2.50
Extra selected breeding, the very best.	5.00

Circular free, giving particulars regarding each class of Queens, conditions, etc. Address,

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Because in 23 years there have not been any complaints, but thousands of compliments.

We guarantee satisfaction.

What more can anybody do? BEAUTY, PURITY, FIRMNESS, No SAGGING, No LOSS.
PATENT WEED PROCESS SHEETING.

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Langstroth on the Honey-Bee, Revised.

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Beeswax Wanted
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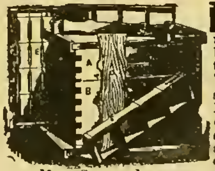

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GEORGE W. YORK, Editor.

AMERICAN BEE JOURNAL.

ESTABLISHT IN 1861 OLDEST BEE-PAPER IN AMERICA

DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS.

40th YEAR. CHICAGO, ILL., APRIL 5, 1900. No. 14.

CONTRIBUTED ARTICLES

New York Bee-Disease or Black Brood.

A NOTABLE contribution to the literature of bee-culture on its pathological side is to be found in Gleanings in Bee-Culture for Feb. 15, written by Wm. R. Howard, A.B., M.D., the man to whom we were already indebted for his valuable work upon foul brood and his investigations on pickled brood.

The new disease, which for want of a name was at first called the New York bee-disease, because it made such ravages in that State, is now called black brood, the appropriateness of the name coming from the fact that the disease begins with a dark spot on the larva, which increases in size, becomes darker, and finally black.

In his introduction, Dr. Howard says: "I have received specimens from Messrs. George W. York, of Illinois; E. R. Root, of Ohio; N. D. West, a New York State bee-inspector, and P. H. Elwood, of New York. All of these men have furnisht not only material, but have been active in getting data for the investigation."

Besides the specimens thus obtained, Dr. Howard obtained some bees and started the disease on his own account. In all he made more than a thousand microscopical examinations.

Dr. Wm. R. Howard, Bacteriologist.

Dr. Howard gives a detailed account of his laboratory investigations, and also of his experimental investigations made with two nuclei into which he introduced *Bacillus milii*, and then proceeds as follows:

> Here conclude my investigations, which have been carefully conducted; altho under disadvantages as to season, etc., they have in a great measure been satisfactory. Many points of vital interest have been made clear, while others of equal importance are necessarily obscure. It is clearly not foul brood. It is clearly not pickled brood. It is clearly something new. It is apparently a disease of the pupa stage. The infection is clearly not in the pollen—not due to a fungus but due to bacteria.
>
> All diseases, in animal and vegetal life, are due to the results of parasitic invasion—some by their mechanical presence, some by the ferments produced in the body, and in plants by changes in or taking from them their life juices, causing starvation and immature growth.
>
> In any given case of rotten wood, dead from freezing, starvation, or other causes, being allowed to remain in the cells, much of the poison generated, as well as the germs themselves, or their spores, remain adherent to the sides of the cell. These are like the seeds which "fell on stony ground," and will not grow until the proper soil, such as is furnisht by the rich nitrogenous substances supplied to the brood by the nurse-bees is brought in contact with them, when a luxuriant growth obtains. This produces a fermenting, decomposing food unfit for the brood, and sets up a ferment, a decomposition within the bodies of the bees, thus destroying their lives. This might happen to the host with any form of parasitic life, either animal or vegetal.
>
> It might be said, speculatively, that the disease had its origin in starvation, and that in some cases several putrefactive bacteria of similar biological character were responsible for this malady, which, when once started and undisturbed, becomes as destructive as the old-fashioned foul brood. The two germs isolated having similar, or the same, biological characteristics, especially an alkaline medium in common, are both in a measure responsible for this disease, and perhaps the variations, the malignancy, etc., are due to modifications by their combined

Explanation of Plate; Magnified 600 Diameters—Reduced.

Fig. 1.—*Bacillus milii.* *a*, spore formation, showing morphological changes, in agar-agarplate culture; *b*, peculiar arrangement often noticed in cultures; *c*, isolated bacilli, floating in the liquids of the bee or in cultures; *d*, Zo-Oglea, showing the most common arrangement of the spores at the center, and the separation of the bacilli from the mass.

Fig. 2.—*Bacillus thoracis*, *a* showing rods arranged end to end as occurs in cultures; *b*, peculiar arrangement seen in agar-agar drop cultures, showing spores by fission; *c*, Zo-Oglea, showing common arrangement of the mass.

Fig. 3.—Mucor, *a* showing the spore-bearing heads; *b*, showing these heads discharging the spores. Common on decaying matter.

Fig. 4—*Aspergillus pollinis*, the fungus causing "Pickled Brood."

Fig. 5, *Fungi.*—*a*, *Hendersonia polycystis.* Fungus found on dead twigs, grasses, etc.; very common; *b*, *Dactylium roseum*, appears as pinkish roseate spots on decaying vegetation; very common; *c*, *Massaria*, var.; *d* and *e*, fungi not common—not placed; unimportant.

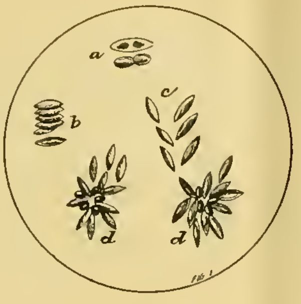
Figs. 6 and 7, spore-bearing organs of fungi.

Fig. 6, *a*, transparent spore-receptacle intact; *b*, same, showing membrane ruptured and spores escaping.

Fig. 7.—Contains similar spores in size and shape, which escape thru the membranous pouches triangularly arranged at the dentate periphery. Found in pollen. No culture made.

Fig. 8.—*Penicillium glaucum*, common fungus, found on moldy bread and elsewhere; very common.

Illustrations in this article are from Gleanings in Bee-Culture.



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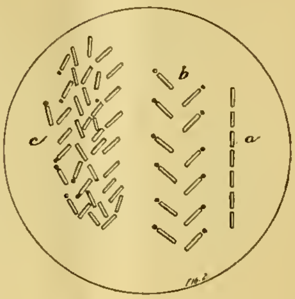

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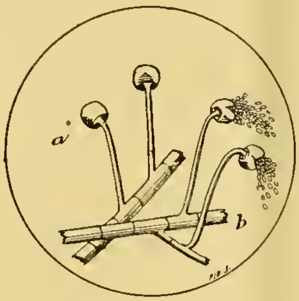

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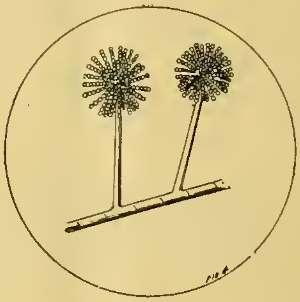

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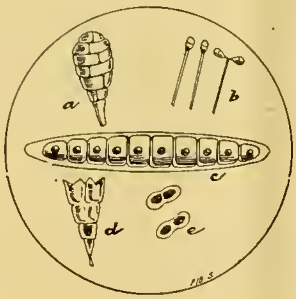

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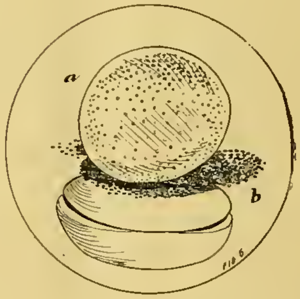

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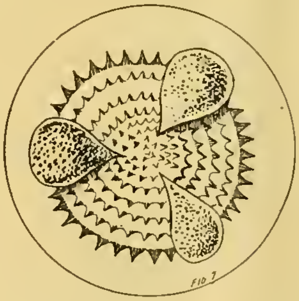

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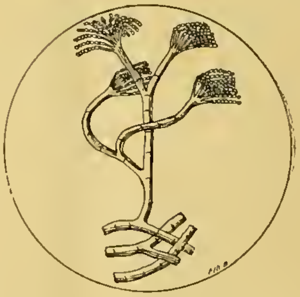

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action. It is, evidently, now due to a specific germ, *Bacillus milii:* the other, perhaps purely accidental at first, on account of its requiring more oxygen, is now found in the thorax among the respiratory organs.

While it has not been clearly demonstrated by facts, practically, it appears to be true that perfect bees, especially nurse-bees, are injured by the infection.

DIFFERENTIAL DIAGNOSIS.

Foul brood, pickled brood, and black brood. Foul brood, due to *Bacillus alvei*—a specific bacterium.

Pickled brood, due to *Aspergillus pollinis*—a specific fungus.

Black brood, due to *Bacillus milii*, modified, perhaps, by *Bacillus thoracis*, specific bacteria.

Black brood may be introduced into a healthy colony thru infected food or infected combs—combs from which the diseased brood has been removed, or in which particles remain. The food for the young larvæ, either from its chemical reaction or from its lack of nitrogenous substances, is not a suitable medium for immediate growth of the germs; but when the chyle-like food is furnisht the older larvæ, a chemical change in the food produces a change in the liquids of the bee, which become a suitable nutrient medium for their rapid development and dissemination. It would appear that, in some cases, *Bacillus thoracis* was the cause of death, as the spiracles, or openings admitting air to the respiratory apparatus, were closed by the products of decomposition or the result of it. In such cases it is usually nearly matured bees that are choked for want of air. These did not show the discoloration or shapeless mass which always obtains when *Bacillus milii* is found in the abdomen. This latter germ, multiplying rapidly in the rich nutrient medium of the alimentary tract, may destroy younger blood than the former. It is often found in other parts, and is certainly the cause of the dark masses of rotten brood. Both germs are found in the same comb, and often in the same bee, thus insuring a mixt infection.

REMEDIES.

The best time to effect a cure is during a honey-flow.

Adopting a modified McEvoy plan:

Make your colonies strong by uniting; place them upon comb foundation starters, and cage the queen. After five days remove the starters and make them into wax, and give full sheets of foundation—keeping the queen caged five days longer. This will give time for all infected mature bees to have disappeared before any brood is reared.

Don't try to save infected mature bees by drugs. They are not worth the trouble; yet salicylated syrups, [Sodium salicylate one ounce, water 5 gallons, white sugar 40 pounds. Make syrup without heat.] during a dearth of honey in the field, would in a measure prevent a recurrence, but would not cure the disease. It would not destroy the germs, but prevent their growth, by placing them in an antiseptic [Antiseptics prevent germ growth. Disinfectants destroy the life of germs, by actual contact only.] medium.

If a cure is contemplated when little honey is coming in, the above modified McEvoy plan should be observed in every detail, and the bees fed with salicylated syrups until the combs are well filled, so that all food may be rendered antiseptic by the time brood-rearing begins.

Great care should be taken to melt all old combs and removed starters into wax at once. Do not use a solar extractor, but remove the material at once to hot water or a steam extractor. Until further investigations shall reveal the longevity of these germs in open air, I shall recommend a thoro disinfection of the hives, frames, etc., by boiling in linseed oil for half an hour. This would not injure hives or fixtures; besides, the high temperature reacht would insure thoro disinfection. Careful, practical, and experimental work, coupled with microscopical investigations in the presence of this disease when at its worst, will, I feel confident, discover some practical plan for its successful eradication.—Gleanings in Bee-Culture.

Painting Apiarian Tools, Etc., Red.

BY GEO. G. SCOTT.

TO "paint the town red" is of too frequent occurrence, tho of doubtful utility. In my practice, however, I find that to paint with red the small implements of the apiary in use out-doors during the summer months, is a remarkable saver of both time and temper. This simple idea, not even worthy of the name "device," will save the bee-keeper who adopts it much fret, as it is a successful remedy against ineffectual search. You bee-keeper, how often after prying open a hive-cover, and in the great interest concentrated for the moment on the contents of the open hive, have you hurriedly and without thought dropt anywhere your chisel in the grass and weeds.

On closing this hive you repair to another to repeat the operation of opening, when you find you have forgotten to bring with you the truant tool. A search is made, and not infrequently you fail to find it at once. In the interval time is pressing, and you rub your scalp with your finger-tips, or with nervous, unemployed energy stroke your whiskers, wondering with bulging eyes where that "plague-oned" thing can be. The writer many a time has had such a trial, and as human nature is constituted very much alike along *some* lines, he has a sneaking thought that this experience has been yours also.

I have lost tools that were not found the same season, and when discovered during the following spring, rust and rot had done their deteriorating work. But and if that implement had been painted red, an ordinary discernment would have quickly found it. Red being in brilliant contrast to the verdant surroundings of the bee-keeper (no insinuation meant), it stands to reason that anything thus daubed will be plainly recognized, not forgetting the rouged cheek, or the nose it has cost so much to permanently stain!

To paint red the screw-driver, grass-hook, grass-shears, scraper, hammer, small blocks, the outside edges of bee-escape boards, the woodwork of the smoker, or whatever other traps about the bee-yard that may not ordinarily be easily recognized, will aid in a successful hunt, if lost. Any implement painted with crimson and placed on top of a hive will shine like a beacon light to the mariner; or smeared with scarlet and thrown in the grass will glow like a lightning-bug in the dark of the moon. Try it.

Fayette Co., Iowa.

Thirty Years' Experience in Marketing Honey.

BY C. P. DADANT.

IN reply to the following enquiry, I think the best I can do is to give our experience during a period of over 30 years in the matter of marketing honey:

> MR. C. P. DADANT:—I am intending to run my apiary for extracted honey, and try to work up a local trade for it, something after the lines laid down in your book; that is, get the grocers to handle it. Now, if you do not think me too impertinent, I would like you to give an article in the American Bee Journal on marketing extracted honey; or, in other words, tell how you go to work in a new field, where people are not used to it, to work up a trade with the dealers; what size or sizes of package, what price you would allow dealers to sell for compared with the price of granulated sugars and other sweets; what percentage would be fair to allow the dealer; and whether you would put it in stores to be sold on commission, or insist on selling to dealers for cash.
>
> I am fully aware that these questions are quite fully answered in Langstroth Revised, but that has been written some time, and you have no doubt had lots of experience along these lines since the book was written. It is very probable that you can give a beginner advice which it would take him years to dig out alone.—PENNSYLVANIA.

It must be remembered that we began the production and sale of extracted honey very shortly after the invention of the honey-extractor. This invention is due, as is well known, to De Hruschka, an Austrian, and dates back to 1865. Very shortly after, Samuel Wagner gave a description of the invention in the American Bee Journal, which he then publisht in Washington, and in 1867 we were working an extractor made at home, a very bulky and unhandy machine. We began the production on a comparatively large scale in 1868, and I well remember my first attempt at selling extracted clover honey. The druggist to whom I brought my sample flatly refused to touch it, because *it was too nice*. Druggists alone at that time handled honey, and outside of a few "caps," or a few broken combs of honey, there was nothing to be found but a thick, opaque, and brownish-looking liquid—strained honey—obtained by crushing the combs and pressing them to squeeze the honey out, or, worse yet, by melting comb and all in a pan in the oven. The honey that was obtained was very little better than molasses.

For the first two or three years we had a great deal of trouble in getting rid of our crop of extracted honey, even tho we had comparatively little of it to sell, as we then produced more comb honey. But the price was high. I remember that in 1871, the year of the Chicago fire, we sold extracted honey to a Chicago firm at 18 cents per pound, in barrels. On the second day of the fire we were about to make another shipment, when we were informed that the city was in flames, and that it was quite likely that our man was burnt out. So we withheld the goods, and lucky that we did so, for the man was "broke," and could not pay for what he had bought.

Within a very short time the markets became glutted with extracted honey, because not only were people unacquainted with it, but many dealers put a spurious article on the market which did great damage to the true honey. In addition to this the honey granulated, and most consumers thought that it was only sugar, and would not buy it when in that condition. We still find an occasional person who does not know that granulated honey is good, but they are quite scarce.

Our first attempt at retailing honey was in glass jars, but the great cost of the jars at that time, and the fact that the granulated honey did not appear at its best in them led us to try tin packages. So we had a lot of cans made holding 10 pounds each, and the first season we put up honey in this shape we succeeded, by much drumming, in selling some six or eight thousand pounds in that one size of package, which we sold at wholesale at 12½ cents per pound. We found our first ready sales thru a Mississippi steamboat agent, who managed to place for us over a hundred 10-pound cans during the course of a few weeks, in the river traffic.

We then began a systematic drumming of our honey put up in this shape, among all the grocers of our neighboring towns, and very soon found that we could not command a retail business unless we put up the goods in smaller packages. Thus we got to selling 5-pound cans, then 2½, then 1¼.

Our manner of proceeding was to go to the grocer, make ourselves acquainted with him, then offer him our honey, guaranteeing its purity, and offering to take back any lot that would not be entirely satisfactory. We askt him to give the same guarantee to his patrons. We never sold on commission. The few times that we tried it we had cause to be sorry for it, either because the goods would remain on the shelves without attention, or because we did not get returns for all we delivered under some excuse or other.

We slowly built up a very good trade, for we always got rid, very readily, of exceedingly large crops, harvesting as much as 45,000 pounds during several single seasons, tho we must say that we never but once got two large crops in succession—in 1883 and 1884.

For 25 years we have sold very little comb honey, and the bulk of our crops has been extracted. For 12 or 15 years past the condition of the market, as far as we are concerned, has totally changed, for the home competition of honey-producers has well nigh driven us out of the home market. It appears that the producers in our neighborhood have thought it impossible for them to sell at our prices. So they have, some of them, ascertained our rates, and have invariably undersold us to get the home trade away from us.

As there are a number of bee-keepers who follow our methods in this vicinity, they have produced enough to crowd us almost out. But, of late years, there has been no trouble in getting rid of the crops anywhere, and we have oftener than otherwise sold our honey at very remunerative prices in large lots. The past season, while one of our home bee-keepers insisted on retailing his honey at 7 cents per pound in small packages to beat us out of the home trade, we have not sold a single pound at less than 7 cents wholesale, and have sold some as high as 9 cents. We have bought all the honey we could hear of among our friends, and it is all gone, and more is wanted.

Our advice to beginners is to seek home sales. Sell to your grocers for cash or for trade, as conditions may require. Do not sell on commission, but have it clearly understood that your goods are just what you represent them to be, and that you stand behind them with your guarantee.

Occasionally you will find a man who will be displeased because he got clover honey when he wanted basswood, or basswood when he expected fall honey. Again, some time or other a little of your honey will prove too watery to keep; this happens in wet seasons with the very best of care, and it will ferment and have a sharp taste. Do not hesitate to make this good, if the honey has been sold before you knew it. Fermented honey, unless it is actually soured, can usually be returned to a very good quality by simply heating it to evaporate the gases that have formed in it. We have often done this, and used the honey afterwards.

Does it pay to produce extracted honey? That question has been askt us many a time. It was put to us by our foreman one day, after sone four or five bad seasons in succession. He had seen how great were our expenses when the bees had to be fed, and wondered whether there was anything in it. We turned to our books and found that in the eleven years that had just elapst we had sold some $16,000 worth of honey of our own crop. An average of $400 to $500 per year would have covered the cost of management and labor. So you can see there is something in it. The cost of extracting is very nearly, if not quite, covered by the beeswax in the cappings. During our best season we made some 600 pounds of first-class beeswax from the cappings. At present prices this would make over $150. Wax from cappings is the very best that can be had.

It is impossible to set a price on honey for any one to use as guide. Prices depend on supply, on demand, on quality, etc., and we can only advise bee-keepers to be ruled by their own judgment. If it is thought best to sell honey on commission, offer 10 percent to the retailer. A wholesale dealer ought to be satisfied with half as much. You can always sell honey in trade to the grocer of whom you buy your supplies, and to many of your townsmen with whom you have any business dealings. But the key of success in selling is in *your guarantee of the quality of your goods.*

Hancock Co., Ill.

"Painted or Unpainted Hives—Which?"

BY H. M. JAMESON.

THE above appeared in the American Bee Journal last December, as a text from which C. Davenport preaches us bee-keepers a truly valuable sermon. There exists, as he says, a diversity of opinions in the matter of painting bee-hives. I fully agree with him as to the advisability of painting hives, even as fully as to the painting of houses. While some of the greatest bee-masters in our country advocate unpainted hives, on certain grounds which I will not attempt to dispute, no man can successfully hold forth the doctrine that lumber exposed to the weather peculiar to any State of the Union, will endure a longer time unpainted than will such lumber well painted.

Mr. Davenport kindly tells us how to obtain a good base as a perservative, as well as one thati s cheap. There is probably none better. However, there are some beginners who will be putting up some new hives; they will have but little or no cash to pay for even the cheapest paints. I will say to these, that I paint all my hives with crude oil, just as it is pumpt from the wells in Los Angeles (costs here $1.50 per barrel). Mix with this enough red ochre to give a good coat, and to each gallon add one pint of coal-oil (or more if it is too long drying); and by giving two coats your hives will stand any kind of weather, and will be in good condition at the end of one or two years to take a coat of white paint.

The bees take kindly to this black crude oil. I have even boiled the lumber of dovetailed hives in this stuff before being put up, and yet the bees like it. More than this, I believe it likes the bees. All will understand that some shade will be needed in summer with these dark red hives.

We have the magnificent redwood here for hives, which, in my estimation, cannot be excelled, and only equalled by Oregon and Washington cedar. One of our trees makes a few hives, too. I have helpt cut a giant that would make more hives than the A. I. Root Co. ever sent out in one season; and there would not be a knot or shake in one of them. Covers and bottom-boards could be one piece, and 25 feet square if saws were big enough to cut them.

Riverside Co., Calif.

Is it "Long Idea" or "Long Ideal" Hive?

BY WM. MUTH-RASMUSSEN.

THE Boiler is wrong in his nomenclature, on page 40, and is evidently not conversant with the earlier volumes of the American Bee Journal. There is no "Long Ideal Hive." In the April number for 1873, the "New Idea Hive" was first advertised for sale, and the first mention of it is in an article from the inventor, D. L. Adair, Vol. VII (1872), page 253. Previous to this it was known as "Adair's Section Bee-Hive," but the sectional feature (by cross partitions) was eliminated, and the name changed to "New Idea," not "New Ideal."

On page 250 of Vol. VIII (1873), in an article from R. M. Argo, is a complete description of this hive. Subsequently some one in a joking manner called it the "Long Idea Hive" on account of its shape, and this nickname has clung to it since then. I think that I have recently seen several allusions to the "Long Ideal," and have wondered that the editor or some one of the veterans did not correct the misnomer.

Inyo Co., Calif.

[Upon receipt of the foregoing, and remembering an interview we had with Mr. O. O. Poppleton on this subject, we forwarded to him Mr. Muth-Rasmussen's criticism, and have received the following in reply:—EDITOR.]

EDITOR YORK:—The history Mr. Muth-Rasmussen gives of the "New Idea Hive," and how its name became corrupted into "Long Idea Hive," is, so far as my recollection goes, correct, and agrees with what I have already written in two or three communications. Gen. Adair's hive differed in an essential particular from the long, single-story hives now in use, the outside or shell of the hive only being alike. If the name, "Long Idea Hive," was given to the one described by Gen. Adair, then it doesn't belong to the one now in use, and there is no ready way of distinguishing between the two, unless another name is used for the later form. As a matter of fact, however, the name has been used for both styles of hives, and is an ample reason for making the slight change of name for one of them.

The name "Long Idea" has always seemed to me to be a misnomer when applied to anything. What is its meaning, anyhow? What definition would a dictionary give to a "Long Idea?" I have long thought that this name, which was first given to the hive in derision, was an offense to good taste in nomenclature, and should be changed if an appropriate name could be found, not too dissimilar from the one hitherto in use, and not too long. The proper name would be "Long Single Story Hive;" but that is too long for common use, and so the old offensive name has been allowed to stick until now.

Last summer, while looking over some copies of an Australian bee-paper, I noticed the name it used was "Long Ideal Hive," and I recognized at once that this was the solution of the name question. This name is so similar to the old one as to create no confusion whatever in making the change, is short, and, above all other considerations, violates no rules of good taste. The name is in common use in Australia, and, if I have any influence with the editors of our American bee-periodicals, it will be the common name here in America.

While in Philadelphia last fall, I requested Editors York and Root to usé the word "Ideal" instead of "Idea" when naming the hive, and as the most extensive user of these hives in this country (which, according to Mr. Muth-Rasmussen's statement, are not the same hives to which the old name was first applied), I think my judgment as to which is the best name for the hive should have some weight. O. O. POPPLETON, Dade Co., Fla.

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A Three Years' Experience with Bees.

BY S. B. SMITH.

IN the spring of 1897 I moved from Stevens County to this (Millelacs), and I brought with me six colonies of bees. They did not swarm the year before, but the surplus honey they stored brought $60. I will now give my experience with my bees for the three years I have been here.

My bees arrived June 10; moving them so late in the season delayed swarming. July 12, 13 and 15 I had a prime swarm issue on each day. I did not wish to have any after-swarms, so I put supers on the old colonies at once. In a very few days all the supers were full of bees, and they were filling the sections with honey. I watcht them closely for 15 days, with no signs of second-swarms, and according to bee-laws I supposed they would not swarm again, but in 21 days each of the old colonies cast a second swarm, and in the meantime they had filled all the sections (84 in all).

Notwithstanding the second-swarms and lateness of the season, it being now Aug. 5, they filled nearly all of the second lot of sections I gave them, and capt them in good shape. One of the second swarms filled the brood-frames and 28 pounds of section honey. The other three old colonies swarmed later, and all did well. One swarm absconded, and I had 17 to put into winter quarters. I kept no account of what my bees made that year; all I can say is, it was a profitable year with me.

I put the bees into winter quarters Dec. 5, and put them out March 28, 1898, apparently in good condition, but later I lost two by being robbed. My first swarm issued May 28, and the second prime swarm June 2, both absconding.

The season of 1898 was a poor one for honey, yet the bees in this section had a great swarming fever. My 15 colonies, spring count, stored only 400 pounds of honey, and increast to 24 colonies.

In the spring of 1898 I bought a colony of Italian bees, receiving them about May 15. June 12 they cast a swarm, and at the same time one of my hybrids cast a swarm, both clustering together. I hived them, but as they did not go into the hive readily, I lookt in front of the old hive and found the queen and put her into the hive, and soon the bees all went in. The colony I bought swarmed three times, and stored 12 pounds of section honey. All the young swarms gathered more honey than they used in wintering. That year I put my bees into the bee-cellar Nov. 26—19 colonies.

The next spring (1899), on April 3, I put them on the summer stands, all apparently in good condition, but after a few weeks some colonies showed signs of weakness, and before I was aware of danger eight colonies died from spring dwindling, leaving a large amount of honey in each hive. None of the Italians died. I think some, and perhaps all, that died were queenless. Our great bee-men will say that my bees did not have proper care after I put them out, to which charge I plead guilty.

My first swarm issued June 3, and they continued swarming until I had 27 colonies, from which I obtained 900 pounds of section honey. I had more bees than I wanted, so I disposed of 11 colonies.

December 8 my bees had a good flight, and Dec. 14 I put them into the bee-cellar—16 colonies, all but one in good condition for winter. I have a bee-cellar dug in the side of a sand-hill, 10x12x7 feet inside, and I think it is the best place to keep bees there is in this county.

I now have 10 pure Italian colonies from the one I bought, and my hybrids are becoming strongly Italian. My Italians are very good-natured, easy to handle, and good honey-gatherers; all the fault I find is, they are too much inclined to swarm. My first Italian swarm issued June 12, and in a few days I put on a super which they soon filled—both hive and sections—and I supposed they were filling the sections with honey, but to my great surprise, on July 24, they cast a swarm, and Aug. 2 cast a second, and Aug. 6 a third swarm. This weakened them so they did not store any honey in sections, and but little in brood-frames, so I drove them out in the fall and took what little honey they had. The old colony I bought swarmed three times, and stored 24 pounds of section honey.

My experience as given in this article differs in some respects from the opinions of apiarists as given in the American Bee Journal, nevertheless I have stated facts just as they occurred. I refer to second-swarms 21 days after prime swarms, and many of these after-swarms have proved to be the best, altho coming out late in the season, while with most bee-men the opposite seems to be true.

I have taken the American Bee Journal for many years, and am largely indebted to it and the opinions of its correspondents for the little knowledge I have of the laws governing the honey-bee; and yet, my experience the past three years has convinced me that those laws and opinions are not infallible. Millelacs Co., Minn.

CONVENTION PROCEEDINGS

Report of the California State Convention.

BY J. H. MARTIN.

The California State Bee-Keepers' Association met in Los Angeles at 1:30 p.m., Feb. 21, 1900. About 50 bee-keepers were present. Pres. Robert Wilkin, in his annual address, related interesting reminiscences in his experience as a bee-keeper. He caught the bee-fever while attending a fair near his home in Pennsylvania, and there saw a man making a public exhibition of bees. He afterward helpt Mr. Harbison prepare 140 colonies for shipment to California, and soon after that, and after losing some 300 colonies during a severe winter, he also came to California, and has been, and is now, one of the foremost bee-keepers here.

In this State bees were first kept in the Sacramento Valley. The first shipments were not very successful, and the bees that did survive the journey were valued at $100 per colony, and the first honey was sold for $1.00 per pound.

After the bees had increast to large numbers, many of them were taken to Southern California, and that portion of the State became stockt. In the early days the bee-keeper was not so favored with bee-literature as at present. The American Bee Journal was mentioned as the very first of the bee-papers, and it has been of great benefit to the fraternity.

Mr. Wilkin stated that he had experienced the usual ups and downs common to all bee-men, that the present dry seasons were in line with his former experiences, and that the patient bee-keeper who held to the business would be the one who would reap success in the end. He many times marketed his own honey, and had made many shipments to various parts of the world, his heaviest shipment being 70 tons to London, England.

A great trade could be workt up in California honey, but from the fact that a good season would likely be followed by a bad one, or a total failure, the uncertainty of the supply had a disastrous effect upon the market.

A paper was read from Mr. Thos. Wm. Cowan on foul brood. The subject is so vital to bee-keepers that it was discust at length, and as the law of this State is defective in many points, a committee of five was appointed to take steps to draw up a new law and get it before the legislature.

The comb-honey subject was treated at length by Mr. Stubblefield. He askt the question, "What is the matter with the comb honey market in Los Angeles?" His idea of the matter was that a fancy grade of comb honey can not be sold here at a satisfactory price. The fourth-grade honey is usually put on the home market, and the best grades sent to the Eastern markets, therefore fancy grades could not compete with the cheaper grades. He believed that a fancy grade could not be secured without the use of separators, and that a good share of the low-grade honey that was put on the market was produced without separators, or else by those who were not particular enough in their manipulation of the bees for the production of comb honey in the first-class grade. The latter should produce extracted honey.

The discussion that followed brought out the fact that many who extract do not take the care they should in allowing the honey to become thoroly ripened. Many are known to extract the honey and young brood, and the milky substance that surrounds it, and all had a bad effect upon the honey.

Mr. Delos Wood contended that there was no harm in extracting honey before it was capt. He had practiced that plan for years, and had no trouble in selling his honey at the highest market price, and people who buy his honey always come back for more. Mr. Wood said that his honey was very thin when he extracted it, but he left it in the tank until it ripened to the proper consistency.

A paper was read by Mr. W. A. Pryal, on "The Early Bee and How to Get 'Him.'" His idea is to feed in October in order that there may be a large number of young bees reared for wintering.

The discussion brought out the idea that location may make a difference, and that while in Southern California we need to resort to no such measures to get the early bee, in San Francisco, which is more or less windy, and a land of the mist, such feeding might do.

The ant pest was discust, and the following remedies prescribed: Find the nest and pour into it a tablespoonful of sulphuric acid. It is sure death to all of the denizens. Another remedy was to rake air-slackt lime into the ground all around a hive or other place needing protection. Gasoline, kerosene, buhac, corrosive sublimate and bisulphide of carbon were also recommended.

Mr. Brodbeck described his methods of producing both comb and extracted honey. He uses a hive about the same depth as the Danzenbaker hive, and claims that such a hive is easier to manipulate, and will secure as large a yield of honey as any other hive and system of management. Mr. Brodbeck always secures a first-class grade of honey.

Another paper was read on the great improvements that are sure to come with the development of the honey-industry. If the business would become more certain, with large apiaries and more of them, there is nothing to hinder the introduction of appliances that will greatly lessen the labor in securing the crop.

The automobile was mentioned as a machine that would become a factor in honey-production. Much interest was manifested in this idea, and many inquiries were made as to where such a machine could be purchast. If there was a $300 machine upon the market adapted to bee-culture it would meet with a large sale.

At the morning session Mr. Clayton read a paper on "Bee-Keepers' Exchanges—Why? Why Not?"

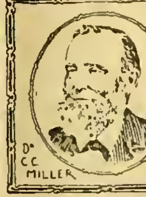
Mr. Colamore, superintendent of the Forestry Station, at Santa Monica, read a valuable paper on the planting of eucalyptus for honey. The robusta, cornuta alpina (a shrub), melidora, sugar-gum polyanthema, were all good and the last mentioned was extra-good, for it bloomed profusely, and held its bloom for fully two months. The trees are easily grown from seed, and easily transplanted. There is an opportunity to set out thousands of acres of these trees in Southern California. All of the mountain sides now covered with a miscellaneous lot of worthless shrubs could be utilized for this purpose. A planting of large areas to trees would have a beneficial effect upon the climate, and in preserving the watersheds in hundreds of canyons.

The subject of moving bees came up for consideration. Many had moved bees during the past season to Central California, and others, owing to the continuation of the dry weather, were contemplating the same. It costs about $7.30 per ton to move into Central California, ten tons to the car; between 300 and 400 colonies can be placed in a car.

The officers of the Association for the past year were re-elected, at the head of which are Pres. Wilkin, and Secretary and Treasurer McIntyre.

◆

Queenie Jeanette is the title of a pretty song in sheet music size, written by J. C. Wallenmeyer, a musical bee-keeper. The regular price is 40 cents, but to close out the copies we have left, we will mail them at 20 cents each, as long as they last. Better order at once, if you want a copy of this song.



QUESTIONS AND ANSWERS.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Moving Bees and Combs.

1. Can bees be moved ½ mile in the fall and be cellared with safety? or would they need a cleansing flight before they were put into the cellar, to insure their wintering well? If they were allowed a flight would they go back to where they were removed from?

2. Will combs that were built last summer on Langstroth frames be all right to stand shipping by rail if the frames are fastened securely in the hives? WIS.

ANSWERS.—I don't know. I have moved bees 3 miles and put them into the cellar without a flight, and they did not winter as well as others in the same cellar. Others say they have moved bees and put them into the cellar without a flight, and they were none the worse for it.

Yes, they ought to stand it all right. There might be an exception in the case of a comb that had never had brood in, was very heavy with honey, without wiring, and poorly fastened at the sides and bottom. Be sure that the frames while in the car run parallel with the railroad track.

◆

Transferring—Feeding for Pollen, Etc.

1. I have five colonies of bees in old hives. Will the first week in April be too early to transfer them? If I do not do so at that time I must wait till the first of June.

2. Is it best to feed flour or corn-meal for pollen?

3. Can one use the Cowan extractor for both the ordinary and shallow Hoffman frames? COLORADO.

ANSWERS.—1. Unless you have warm weather in the first week of April with bees flying every day and gathering stores, it would be better to wait.

2. I think I should prefer corn-meal to pure wheat flour, but may be mistaken. The little I tried of the flour was not a great success. Better than either, I like corn and oats ground together, of which I have fed many bushels. It is light and gives the bees a good foothold, and when they have gleaned out all the fine parts the balance can be fed to four-footed stock. A nice way to feed it is to have a box perhaps 6 inches deep and as large as a hive-cover. Fill it a fourth or a third full, block up one end 3 inches higher than the other, and when the bees have dug the feed down level, turn the box end for end.

3. Yes.

◆

Management for Swarming-Time.

I have 32 colonies and want to run for comb honey, and can not be at home much of the time in May and June. I have 8 empty hives that I want to fill with new swarms, and that is all the increase I want. I thought of putting on queen-excluders so the queen could not get out, and then the bees would come back to their old home. Then give them room. Would this plan work, or can you give a better one? MINNESOTA.

ANSWER.—Your plan will not be likely to suit you. The bees will come back, to be sure, but that will not be the end of it. They will swarm out perhaps every day for several days, and a week or more after the first swarm issues there will be a young queen in the hive, the old one being killed, and then they will be more fierce to swarm than ever. After a time all the young queens but one may be killed, and there being no chance for her to get out to mate, you may have a drone-laying queen. In the meantime this large amount of swarming will take place with many if not all of the colonies, making a number of swarms out each day, often at the same time, and after the young queens are out such swarms will sulkily hang on a tree for hours, several of them settling on the same place, and then the whole bunch may enter the same hive, leaving some of your colonies considerably depleted. Some of the young queens will be very likely to get out at some crack that you didn't suspect, and sail away to parts unknown, taking with them one of those mammoth clusters.

I don't know any good way that a beginner would be likely to succeed with 32 colonies of bees so as to have only eight increase and a good crop of honey, and be away from the bees most of the time in May and June. You might come nearer the mark by having Alley queen-traps at the entrance, then when you found a queen in it you could take away all the brood, leaving the old queen and all the bees in the condition of a swarm. Or you could remove or kill the old queen, and then when all the brood is sealed, destroy every queen-cell but one.

THE AFTERTHOUGHT

The "Old Reliable" seen thru New and Unreliable Glasses.
By E. E. HASTY, Richards, Ohio.

THE NEW YORK BEE-DISEASE.

If some of the boys feel bound to prove that the New York bee-disease is owing to too much cellar-wintering—why, then, we are going to have "a pretty kettle of fish," sure enough. Page 100.

MR. COGGSHALL AND HIS APIARY.

Here's the apiary we wanted to see—a Coggshall apiary where nothing is done for the looks of things. Hives put down just where it comes handy, not even rank and file. Bottom-boards extempore, sized or oversized, as fate may lead. Weeds *ad libitum.* If ragged-edged quilts stick out, so be it. And, horror of horrors, a ku-klux robe hung right in a prominent tree, where he that passeth by can't help seeing it! (I've got one, but I keep it out of sight mostly.) The heavy villain himself stands right there in the ultra foreground, like one of Rosa Bonheur's horses; and he seemeth to say: "The blood you thirst to shed is not congealed by the artificial terrors with which you menace your victim. It flows smoothly and unruffled in those channels which the Creator made for a noble purpose, etc."

Whatever we may think of the style of the "shebang," we can not afford to sneeze at five carloads of honey per year—neither at that four-frame extractor, in which the frames are swiftly reverst without reversing. Thanks for so excellent a view of it. Somebody'll have to put it on the market sooner or later. The hive which is itemized into bits for our benefit has a very rude-looking gridiron of wire in front of it. Wonder if that's his bottom-spacer, or perchance spacer for both top and bottom. Crane smoker, eh? And we are not told that the barrow standing by is needed to tote it about either. Surprised to learn that Mr. Coggshall prefers chaff hives to wintering in the cellar. I train in the same winter company, but not so much of preference as because it would be inconvenient for me to run away. Page 114.

OLD GRIMES' EXTRACTOR IDEAS.

That's a good Grimes idea, to keep the extractor within a boy's power to run it. Another one—lock the handle of the honey-gate which has power to empty a big tank. And I wish lady customers inspected all our extracting outfits; for then there would be decency all 'round. Page 114.

PRANKS OF EXTRACTED HONEY.

The great variety of pranks which extracted honey will play in the course of years is instructively set forth in the Colorado report, page 117. Of especial interest is the gradual blackening of white honey with time. Fifteen years made Pres. Aikin's sample of white honey as black as sorghum. I have been inclined to blame contact with tin for most of this darkening; but quite possibly I am in a mistake, at least to the extent that honey in glass will often get black also. The general trend of these changes is evidently downward, and sometimes in one year, and sometimes in many years, the outcome is a mere swill entirely uneatable. An old bee-keeper of this county took a number of barrels of honey to California just in time to find the price knockt flat by the new broom of apiculture. He wouldn't sell at ruling price, brought it back here when he moved back, and still kept it on until it was totally worthless.

DADANT ON EXTRACTING-SUPERS.

Several of Mr. Dadant's reasons for clinging to shallow extracting-supers have considerable weight; but what he calls the main reason refers to a difficulty that we all (in this enlightened age of the world) ought to extinguish in another way. Keep the queen down with perforated zinc; then decide the size of your super by other considerations. Still, if one has a plan that *works*, and by which no honey is extracted till the close of the season, the main need of the zinc disappears. Page 115.

SOME HONEY KINKS.

On page 117, Mr. Porter of the Colorados, posts us that after having educated a customer's family to alfalfa honey it won't do to change to sweet clover—which same shows the latter to be decidedly the poorer.

And the same page tells us that the candy factories sometimes buy alfalfa honey, and that they know how to utilize honey so as to retain delicate flavors. Room for we'uns to find out something.

MR. PRIDGEN'S DARK 'KERCHIEF STORY.

That's a dark subject, Mr. Pridgen, that dark handkerchief hanging out of a fellow's pocket, and the bees pitching at it. He wasn't a married man, was he? At least his wife had not the control of him she desired. When a man has more independence than is good for him his handkerchief is apt to be dark. And I don't blame the bees. Page 122.

BEE-MOTH IN COLORADO.

Our Colorado friends seem likely to get into a squabble as to whether the bee-moth is or is not in that State. Peace, brethren! What's to hinder the moth from being carried to the State any day? And while it might not flourish as it does in a different climate, it's not likely it would immediately become extinct. Wise man would extinguish it before it Darwinized itself into a new variety. Page 124.

MR. JOHANSEN'S EXTENSION HIVE AND IDEAS.

Yes, Mr. Johansen, your considerations (four out of five of them) are excellent. Use the bees' natural impulse instead of resisting it; prevent swarming; keep the sections clean; protect the colony with chaff. As to utilizing more than one queen in a colony, that is still among the problematical things. But we fear that the hive resulting from churning these considerations in the Johansen brain will be rickety, and quite lacking in durability, altho quite expensive compared with the standard hives in use. If there is a swift and unmistakable "get there Eli" about it, when tried by others than the inventor, its faults can be borne, otherwise it will go under quickly. Twenty brood-frames below and a hundred sections above, look like business. But run as a side-storing hive pure and simple, that is hardly in accord with the first of the considerations announced. That bees incline to fill the quarters below before going above "depends" (depends tremendously) upon how big the quarters below are. And that all the eight sections in one frame of a side-storing hive "are apt to be in about the same condition," we find some difficulty in getting the conviction down, Mr. J. As to the three-queens-in-a-hive method, talk to us some more after you have actually run a dozen such colonies in your hive. We get tired rather quickly of experiences which are *going to be* realized. Pages 129 to 131.

SPREADING THE BROOD.

Mr. Aikin's plan of spreading the brood without spreading it is an excellent plan—that is, if you wish to do anything in that line at all. Done with sufficient care, the nest is warmer "after taking" than "before taking," and the great objection to that class of manipulations is obviated. The only case I can think of where warning is needed (must bark a little, you know) is a weak colony with an unusual amount of stores. Putting the wintered stores, more or less inclined to drip if a squaw-winter should come along, right next the entrance, and a nest that must have all the bees to keep it warm away back, might result in getting the whole establishment robbed out. Page 132.

AMERICAN BEE JOURNAL.
ESTABLISHT IN 1861 OLDEST BEE-PAPER IN AMERICA
DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS

PUBLISHT WEEKLY BY
GEORGE W. YORK & COMPANY,
118 Michigan Street, Chicago, Ill.

[Entered at the Post-Office at Chicago as Second-Class Mail-Matter.]

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IMPORTANT NOTICES:

The Subscription Price of this journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "Dec00" on your label shows that it is paid to the end of December, 1900.

Subscription Receipts.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows you that the money has been received and duly credited.

Advertising Rates will be given upon application.

VOL. 40. APRIL 5, 1900. NO. 14.

EDITORIAL COMMENTS

NOTE—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

Bees Have Wintered Well, according to the general run of reports, there being quite a contrast between present reports and those given up to this time last year.

A Convenient Bee-Tree is that reported in the British Bee Journal in which the owner of the tree referred to "works" the bees located in it on a plan not generally followed; in fact, he first cut a good-sized hole in the tree so as to lay bare the combs, and by means of his pipe the bees were smoked off, and several slabs of honey cut out and appropriated. This done, the opening was covered by a sack nailed on, and the bees left to repair the loss as best they could. They got on very well, and the owner for several years has in summer helpt himself to honeycomb as wanted as before, and covers up his "honey-cupboard" by again replacing the sack.

Honey-Recipes.—We take the following from Gleanings in Bee-Culture, having been furnisht by Mr. W. L. Porter, Editor Root vouching for the excellence of the coffee and taffy:

HONEY-CEREAL COFFEE.—Five pounds of fresh wheat bran; mix with 2 pounds of rye flour, 2 pounds of alfalfa honey. Mix the honey with 3 pints of boiling water. After the honey and water have come to a boil, pour into the bran mixture. Stir thoroly and knead to a *stiff* dough; put thru a domestic meat-grinder to separate them. Dry in a warm oven. Brown the same as coffee. For a coffee flavor, add 2 pounds of the *best* Mocha and Java. Have it all ground, and put in air-tight cans for future use.

HONEY-TAFFY.—Boil extracted honey until it *hardens* in cold water. Pull until white. Any quantity may be used. One pound requires about 20 minutes' steady boiling.
MARY C. PORTER.

HONEY-PASTE FOR PUTTING LABELS ON TIN.—Take 2 spoonfuls of wheat flour and one of honey; mix the flour and honey, and add boiling water to make right thickness. This is fine for labels, or wall-paper where paper will not stick with ordinary paste.
W. L. PORTER.

The Langstroth Monument.—After $100 or more had been raised for a monument, the matter was taken up by General Manager Secor, with a result that $275 has now been reacht, which will erect a fine shaft. Mr. E. R. Root, President of the National Bee-Keepers' Association, requested Mr. Secor to add to his good work by writing a suitable inscription for the monument. This Mr. Secor has done in such a fine manner that American bee-keepers will be none the less proud of their poet-laureate. We reprint the inscription which appeared on page 200 of this journal for 1899:

INSCRIBED TO THE MEMORY OF
REV. L. L. LANGSTROTH,
"FATHER OF AMERICAN BEE-KEEPING,"

by his affectionate beneficiaries in the Art; who, in remembrance of the services rendered by his persistent and painstaking observation and experiments with the Honey-Bee, his improvements in the Hive, and the charming literary ability shown in the first scientific and popular book on the subject of Bee-Keeping in the United States, gratefully erect this monument.

Rest thou in peace. Thy work is done.
  Thou hast wrought well. Thy fame is sure.
The crown of love which thou hast won
  For useful deeds shall long endure.

All Should Join.—Mentioning the fact that the Wisconsin is the first association to come as a body into the National Bee-Keepers' Association, Editor Hutchinson makes a good point when he says, in the Bee-Keepers' Review:

"There is often an advantage even in numbers. When our representative, be he delegate, attorney, or manager, can say: 'I represent an organization of 1,000 bee-keepers!' it has weight."

Care in Breeding is a matter receiving considerable attention nowadays. Not that professional queen-breeders alone are to be careful, but every producer of honey. Upon this point Ebenezer Skies talks some very good sense in the American Bee-Keeper. His statement that any bee that will gather honey will do for extracted honey needs some qualification, but the rest is all right. He says:

"Any bee that will gather honey will do for extracted honey, but not so for comb. Only those colonies should be selected that are nearest perfect as comb-builders, and whose cappings are the whitest. Only such colonies as these must be used as breeders. No drones must be allowed to fly from any colony, except those having these desirable qualities. No queens must be reared from any but colonies having these qualities.

"If this is done persistently, and every queen destroyed, the work of whose progeny falls below the standard you have set, for a few seasons, you will have an apiary of thorobred, fancy comb-honey producers—that is, as far as the bees go."

Honey for Poultices hardly receives the attention it deserves. A prominent British bee-writer, Mr. W. Woodley, gives the following in the British Bee Journal:

"We have here two cases for which I am supplying honey. In one case (a damaged elbow) a blacksmith was screwing a nut on the underside of a wagon, when the spanner slipt and his elbow struck the wheel, causing injury to the bone. The man was under a medical man for two or three weeks, when, as the arm was still getting worse, his doctor thought it best for him to go to the hospital and undergo a surgical operation, which included scraping the bone of the arm. The hospital being full, and the man having to wait his turn in consequence, he was induced, on my recommendation, to try honey-poultices, which, in about ten days, so far healed the arm that the doctor does not now consider it necessary for him to go to the hospital at all.

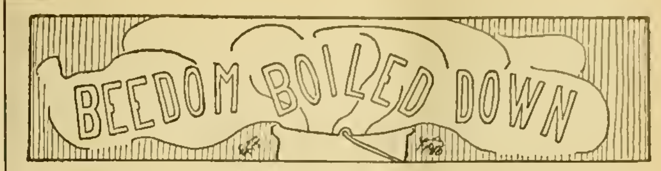
"The other a very bad case of a gathered thumb caused by a thorn. In this instance the sufferer received more benefit from honey-poultices than from any other remedy. I mention these facts as connected with usefulness of honey, and if we could get the medical profession to advocate the use of honey either as food or otherwise, we should soon have the demand equal to the supply."

A New Idea in Wax-Extractors.—When Editor Root was in Colorado, among the things he saw at the home of R. C. Aikin was a mammoth solar wax-extractor, in which there was a new departure by way of applying bottom heat, a principle that can equally be employed in the smallest solar extractors. Mr. Root discourses as follows in Gleanings in Bee-Culture:

> Now, then, for the solar wax-extractor. As will be seen, it looks very much like a small greenhouse. In fact, it is built a good deal on the same plan. The floor or pan of the extractor, so to speak, is built right over a brick oven, so that not only solar but artificial heat may be utilized.
>
> "Why," said I, "Mr. Aikin, what is the sense of having artificial heat when you have so many days of bright, strong sunshine, with an atmosphere so clear that there is neither mist nor rain a greater portion of the year?"
>
> "Well," said Mr. Aikin, "try it for yourself. You will discover that you can not only do better work, but secure much more wax out of the dirt and refuse by such an arrangement than you can by either source of heat independently. The heat from the sun acts only on the top of the mass. The melted wax runs down and lodges in the refuse, collects, and stays there. By my plan I apply a gentle heat *beneath* by means of the brick flue, or oven as you see. The heat from *above* and the heat from *below* cause almost every particle of the wax to flow out of the refuse, and run into the pans in front."

Bees on Shares is considered by Editor Root in reply to a question in Gleanings in Bee-Culture, and he asks for an equitable plan, if there is one, whereby all disputes and ill-feeling may be avoided, and for "a form of contract that will be iron-clad, and afford full protection equally to both parties." In the meantime, Mr. Root gives the following as the general custom:

> "When bees are kept on shares it is the rule for both parties to share equally in the profits, and in the expenses and losses. The time of the one who contributes the labor is supposed to offset the capital of the other in the form of bees, hives, implements, etc. Carrying this principle out, each party pays for half of the new hives, sections, shipping-cases, honey-barrels, honey-cans, etc.; and each party receives half the proceeds of honey and bees sold. At the end of the season the increase is divided equally between them. For instance, if there is an increase of 50 colonies from swarming, each would have 25 colonies, including hives and a half-interest in the supplies left over. If at the beginning of the season the owner has 25,000 sections, the one who is supposed to work the bees is expected to pay half their cost, including freight.
>
> "But if half the bees die during winter, notwithstanding the fact that the operator puts them up the best he knows how, carrying out the same rule, he should make good half the loss of the bees. And right here is where many troubles arise. The operator is apt to complain, and with a fair show of justice, that he ought not to be expected to pay for bees that were lost during winter that were not his legally. But here comes the owner, and says that, if his partner had taken care of the bees, no such loss would have occurred, and then there is a row. So it is well to have this particular point safely covered."



To Clean Cappings of Honey put them in a vessel of warm water, stir well, then squeeze the wax into balls with the hands. In the evening feed the honey-water to the bees.—Biene und ihre Zucht.

Drone-Layers and Foul Brood.—Ludwig says in Leipz. Bztg. that colonies with laying workers or a drone-laying queen form good soil for the prompt introduction of foul brood. Another reason, if true, for not fooling away time trying to build up such colonies.

Bees Biting Cappings.—F. Greiner said in the American Bee-Keeper he had trouble in this direction when using bee-escapes at the close of the season. Editor Hutchinson doesn't have the same trouble, and Mr. Greiner replies that locality, weather, and strain of bees make the difference.

The Value of Bees to the Horticulturist and fruit-grower, or rather an evidence that their value is becoming known, was shown at this convention by one of the horticulturists, a man who owns extensive orchards, coming into the convention and offering a site for an apiary free, to any bee-keeper who would establish an apiary upon it.—Report of the Wisconsin convention in the Country Gentleman.

To Stop Robbing, it is recommended to put sand and sawdust in the entrance of the robbers. A writer in Praktischer Wegweiser says the robbers become so intent upon cleaning up their doorway that they forget all about robbing. Would that succeed with Yankee bees? One trouble is, that it is not always easy to find where the robbers are, and their home may be a mile from the scene of their depredations.

Different Colonies Gathering Different Honey.—Being askt why one colony in an apiary produced white honey of a delicate flavor, while another with the same chance produced only amber honey of rather strong flavor, Editor Root in Gleanings in Bee-Culture, doesn't pretend to know, but says he found in New York that blacks and hybrids showed partiality for buckwheat, and pure Italians for clover or basswood. He suggests as a possibility that individual colonies, like individual bee-keepers, have individual tastes.

"**Natural Swarming** has a fascination about it that no mode of artificial increase can possibly have."—G. M. DOOLITTLE. I don't in the least doubt that's true from your standpoint, Bro. Doolittle. Years ago the issuing of a swarm meant to you desired increase, and a glamor was thrown over the whole affair that will never fade away. With me there's a fascination about artificial increase; but there never was any about natural swarming. The announcement of a swarm fascinates me just about as the announcement that the cows have broken into the garden.—Stray Straw in Gleanings in Bee-Culture.

Greasy Sections (in this case meaning sections that look greasy or watery for lack of an air-space between the honey and capping) are having considerable discussion in Gleanings in Bee-Culture. It started from advice given in this journal to pinch the head of the queen in a colony producing such sections. W. M. Whitney and Dr. D. A. McLean are confident that the trouble lies, not in the queen, but in conditions and character of the honey-flow, urging that such greasy sections contain the finest honey. On the other hand, Mrs. A. J. Barber is just as positive in holding "the queen responsible for almost everything that goes wrong—greasy sections and all."

"**Advertise Your Honey,**" says R. C. Aikin in the Bee-Keepers' Review. One of the ways is to put name and address on the case. He does not agree with Mr. Mandelbaum that the name should be there and not the address. The middleman may not want the address there, but it is the right of the producer to have it there. The *retailer* and the *consumer* have a right to *know* where their goods come from. A retailer has a right to order direct from the producer if he sees fit, and a producer has a *right to the reputation his production gains*.

In the same paper W. A. H. Gilstrap says: "Perhaps the strangest part of Mr. Mandelbaum's article is where he wants the cases markt so as to protect *him*, and yet allow him to sell alfalfa and basswood for white clover. I don't know what you call that."

And again in the same journal, Frank Ranchfuss says: "We not only want our names on the cases, but also the addresses, so that people will know where the honey has been produced. We recognized that this is the only way to establish a reputation for our product."

Bee-Keeping in Switzerland.—As every traveler knows, honey is much in evidence at almost every meal in Switzerland. The Republic has an excellent bee-school at Zug, where there are usually 25 students undergoing training in the brief honey-producing season, which (as far as commercial production goes) extends to but three or four months—the later stores being always allowed to remain in the hives for winter. The bee most valued is the small brown German variety, which beats the Italian and Carniolan sorts hollow in foraging in hot weather. I regret to see that complaints are rife as to the import of adulterated honey, and need hardly say where the complaint chiefly lies. Scarce one of the old-fashioned straw-skeps is now in use, the most approved bar-hives being almost universal.—Country Gentleman.

A New Bee-Glove, devised by C. I. Graham, is thus described by Editor Root in Gleanings in Bee-Culture:

"The wrist portion of the article is made of some stout strong cloth and elastic material the same as shown in shoes. Instead of shortened glove-fingers every other finger passes thru small iron rings; and these are said to be sufficient to keep the protector tightly over the back of the hand. The elastic rubber causes the wrist portion to fit tightly, preventing any bees from getting up the sleeve, and the rings give the freest possible use for the fingers and palms of the hands.

"I have not tried these protectors any more than to put them on. I don't know, but I *think* I would not on a hot day like to have a pair of tight corsets, so to speak, around my wrists. I have used with a great deal of satisfaction a pair of loose straw cuffs to prevent soiling of my sleeves, and to keep bees from crawling up my arms."

Strong Colonies for Comb Honey was the slogan at the Wisconsin convention. A report in the Country Gentleman says:

"Mr. C. A. Hatch argued for the 10-frame brood-nest in the spring, in order to rear all of the bees possible. At the opening of the honey harvest he would have every comb in the brood-nest of a colony that was to be workt for comb honey, filled with brood, even if he had to rob some other colonies in order to do this. He would place the unsealed brood at the outside of the brood-nest. This prevents the filling of the ouside combs with honey, as the harvest (from basswood) is over before the brood has hatcht from the outside combs. The center of the brood-nest will not be filled with honey. In a debate between two members, on spring management, one advocated that all colonies to be run for comb honey should be populous, even at the expense of weaker colonies, by robbing some of the latter of combs of brood if necessary. He believed in concentration instead of equalization."

Cleansing Beeswax is thus given by F. Greiner in the American Bee-Keeper:

"I happened to have an old 5-gallon oil-can; from it I cut the top and put in a small brass-faucet about three inches above the bottom. The can was then ready for work. It was first filled with water up to within one inch of the faucet; when the water was hot, the wax, in its crude state, was added little by little as it kept melting, till the can was nearly full. When all was melted, a cover was put on the dish, moved to the back part of the stove, or the wick of the oil-stove pretty well turned down. My aim now was to keep the melted wax in a quiet state for some little time, until the agitation of boiling had subsided. Still I did not want the wax to cool off very much, but give it time that any impurities might settle. After a lapse of about 30 minutes I commenced drawing off the wax, running it into slightly oiled new-tin basins; all of these when full were set to one side and kept covered so that the cooling process might go on slowly, thus preventing the cracking of the cakes.

"Moulded in new tin the cakes came out much brighter than when using any old rusty basins, as I have done before. I was greatly pleased with the appearance of the wax, and so were others. Having some on exhibition at the fair, some experienced bee-keepers askt me repeatedly how I managed my wax, whether I had varnisht it, etc. For that reason I make special mention of this point. All wax that would run from the faucet without tipping the can up, came out perfectly clean, and none of the cakes, when cool, had any sediment. That which did not run out was allowed to cool in the can, slightly tipping the can back, to leave the faucet above the top surface of the wax. As soon as hardened sufficiently, and yet before the wax had become really cold, the slab about an inch thick was taken out and dirt and other impurities were scraped off from the bottom. I melted this cake with the next batch each time, and thus managed I had only one small cake of inferior wax in my whole lot of 150 pounds."

Improved Benton Shipping-Cages were mentioned by Mr. Benton at the Ontario Co., N. Y., convention, as reported in Gleanings in Bee-Culture, as follows:

"As stated, the customary cage is made out of an oblong block with three holes bored in it, and overlapping each other. This feature Mr. B. objected to. A thin wall should be left standing between these holes, connecting them by a smaller perforation thru the walls, which may be effected by boring a small hole from the end into the cage. Formerly the sides of the cages were made flat or smooth. Packt tightly in the mail-bags it might cause a lack of ventilation, which can be easily insured by grooving the long sides of the cages, and boring, *not punching*, the little holes for ventilation from the grooves into the cage. By thus *ventilating only chamber I*, the bees may retreat to compartment II, if they should find it more congenial there. In fact, here they *will* generally be found clustering."

Wet-Sheet Pack for a Severe Bee-Sting.—I want to say a word of comfort to those who suffer from severe itching, resembling hives, all over after being stung by bees, especially in warm weather. My daughter, aged 12, was stung by a bee last summer, and in half an hour her body was as red as it could be, and swelled up in blotches and lumps of all sizes, and she was in such agony that she cried out aloud. My wife got a sheet, wrung it out of cold water fresh from the well, and spread it upon a bed, and, after taking off all of the child's clothes, she laid her upon it and covered the ends of the sheet over her and patted them down very closely. She then covered her up with a lot of quilts. In 15 minutes she was asleep, and slept over an hour. When she awoke she felt quite well, and the perspiration was flowing freely. After wiping herself carefully with a soft towel, she drest, and felt as well as ever.—EDW. SMITH, in Gleanings in Bee-Culture.

Some Big Yields of Honey are reported in the Australian Bee-Bulletin as follows:

"Some seven or eight years ago Mr. Vogel, of the Paterson, reported that one colony with its swarms had produced 1,000 pounds of honey.

"Mr. Peterson, late of Wattle Flat, asserted that one year his colonies averaged 750 pounds apiece. It was not, however, satisfactorily proved. The year previous he had no honey and had to feed.

"Mr. Maxwell, of Albury, informed us that one year he had an average of 500 pounds per colony.

"Mr. Kelly, last year, had 17 tons from 70 colonies. These big returns, as far as we can learn, are never followed up. The following year, or the previous one, are in most cases poor ones."

Honey and Almond Cake.—Boil one pound of honey. After it has boiled, and while still hot, stir in one pound of flour, ¼ pound of coarsely chopt almonds, browned in ¼ pound of sugar (heat the sugar *without water*; when it has melted stir in the nuts; allow it to cool, and then separate the nuts so they will mix well). Add one teaspoonful of ground cinnamon, ½ teaspoonful of ground cloves, a handful of chopt citron, and a scant teaspoonful of soda dissolved in a little water. Mix well, spread on a floured tin, and bake. While still warm cut into squares.—E. H. SCHAEFFLE, in Gleanings in Bee-Culture.

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GENERAL ITEMS

The South Dakota Convention.

The South Dakota bee-keepers assembled for the purpose of organizing a State bee-keepers' association, at Yankton, Jan. 25, 1900, at 1:10 p.m., with R. A. Morgan in the chair, and E. F. Atwater as secretary.

A committee of three was appointed by the chairman to draft a constitution and by-laws, composed of Messrs. Harmeling, Dole, and Chantry.

A discussion of various points in relation to bee-culture was then taken up. Mr. Danielson opened a discussion in regard to time of putting queen-cells in nurseries; it was generally thought that cells should not be put in nurseries until "ripe," altho the reason for this was not clearly understood. Mr. Hobbs opened a discussion in regard to the best packing for outdoor wintering, chaff or any light porous substance seeming to be preferred. Mr. Burke gave his method of producing comb honey. Some wintered their bees exclusively in the cellar, while others have had more or less success with outdoor wintering.

After a 5-minute recess, the committee on constitution and by-laws reported. The constitution was discust and adopted article by article, after slight changes in wording, etc.

The chair appointed Messrs. Danielson, Harmeling, and Waterman as a committee on districts. On motion, Mr. Chantry was instructed to write out rules of procedure, which were adopted. The following amendment was carried: "The executive committee shall prepare a program for each meeting, which shall be sent to all members at the time of notifying them of the time and place of the next meeting."

EVENING SESSION.

The meeting was called to order at 7:30 o'clock by Pres. Chantry. The committee on districts nominated Mr. Hobbs for vice-president of the Yankton district, Mr. Chantry the Meckling district, and Mr. Harmeling for the rest of the State. All were duly elected.

It was decided that this association join the National Bee-Keepers' Association as soon as possible, action in the case to be left to the executive committee. Any one may receive and forward money from new members. It was voted that Mr. Morgan and Mr. Chantry represent the Association at the Farmers' Institute at Vermillion, and that the executive committee have the power to act in all such cases.

Mr. Danielson presented and explained several new or improved appliances, combined hive-stand, moving apparatus, and entrance-closers; the Chantry hive-knife, improved by Danielson, was also shown. The Chantry hive-tie was exhibited and explained. Miss Danielson, at the request of the Association, sang "The Hum of the Bees in the Apple-Tree Bloom."

Mr. Morgan offered to secure the

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The colony from the Adel queen you sent me in 1898 gave me 3 supers of honey last summer, tho it was the poorest season here. Other colonies gave only one super, and many gave no surplus at all. MRS. C. A. BALL.
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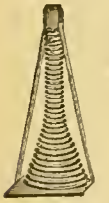

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printing of articles on bee-culture in the papers of Vermillion.

The convention adjourned subject to the call of the executive committee.

E. F. ATWATER, *Sec.*

Bees Had a Good Flight.

On March 17 my bees had a grand cleansing flight in the warm sun that for the first time prevailed since last year. Old Sol outdid himself on this occasion as a sort of apology for his prolonged absence in material force.

Yes, sir; the bees had a perfect picnic and fully enjoyed it. I took a peep into their sanctum to see how they fared for commissaries, and found but two frames empty, which I removed and substituted with two good combs that I saved last fall with this very object in view.

They remained all winter on the summer stand with an ordinary box inverted over the hive, which evidently afforded sufficient protection. As soon as practicable—perhaps the latter part of April—I intend to divide it into two colonies, and, by feeding more honey, have a couple of Italian families that, I believe, will give an excellent account of themselves. I am making big calculations on a fine honey season, and I believe that bee-keepers who are discouraged because of recent failures, and hesitate about looking sharply to their bees and needed supplies, will miss it very big. They who expect nothing, generally get what they anticipate. They who try persistently never entirely fail, and often hit it just right.

DR. PEIRO.

Cook Co., Ill., March 24.

The Extension Hive.

Will "West Ontario, Canada," kindly give us the benefit of his opinions on features of the "Johansen extension hive," which he may think impractical? A full, explicit explanation is desired.

H. JOHANSEN.

Favors Painting Hives.

C. Davenport's views on painting hives, on page 821 (1899) reminded me that it would be only fair to the subject to admit that I am now in favor of painting hives. A few years ago I was induced by a prominent bee-keeper to try unpainted hives. I knew they were more porous than painted hives. The first year I was well pleased with them and soon had about 40 in use. But, alas, time told on the color and other qualities of the hives. In those unpainted, dark-colored hives the heat in those exposed to the sun was much intensified; they crackt, pulled apart, and got out of fix generally. Last summer and fall we painted most of them, and the rest will be painted as opportunity occurs.

I have hives that were painted 26 years ago, and repainted once, and they are practically new. I should say that 3 years on an unpainted hive is equal in destruction to 25 if kept painted.

Then, the looks—the appearance—ought to count for not a little. Like Mr. Davenport, I now paint my hives white.

I cannot quite agree with those who advocate painting inside. I have experimented pretty thoroly in that re-

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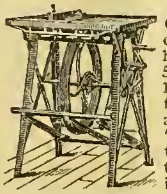

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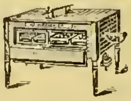

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spect, but the results have been unsatisfactory. I account for it in this way: The oil absorbed by the wood from painting both inside and out, together with the moisture taken up by the wood in cold, damp weather, make the hive a pretty good conductor of heat, and hence the temperature of bees is severely taxt. I am aware that a hive unpainted inside will at times become saturated with water, but it dries quickly. S. T. PETTIT.

Ontario, Canada.

Dry Year in Southern California.

The bees will do well if they are able to "keep the wolf from the door" of their own homes. And if they could see what is ahead of them for the long dry year to come, I fear they would emigrate in a body—and it might be just as well for the bee-keeper in the end.

I see by Gleanings in Bee-Culture that Rambler was getting blue over the situation. As that was Feb. 9, I think by this time he must be ready to cut up into chunks for laundry use. And I also note that he has been pestered again by one of those deaf people. I had hoped to be able to meet Rambler some time, as I journeyed to the "City of the Angels," but as I am afflicted by impaired hearing myself, I fear I will have to deny myself that pleasure; but as my wife is a greater talker than I am, I can send her, and I imagine I hear him exclaim in despair, "Merciful heavens!"

The San Diego weather bureau reports the rainfall to date 3.11 inches, and normal seasonal deficiency, 5.81 inches, which explains the conditions here. F. C. WIGGINS.

San Diego Co., Calif., March 26.

Expect All to Winter.

Our 84 colonies we think are going to pull thru the winter nicely; at least all indications point that way. Bees have had several flights this month, altho at this date there is still good sleighing. CRAWFORD BROS.

Osceola Co., Mich., March 26.

A Young Bee-Keeper's Report.

We have had a very good winter for bees here. We put into winter quarters 103 colonies and they are all in good condition, except about 12, and they are not bad. We always winter our bees on the summer stands. They are wintered in the 10-frame Langstroth hives. The shell in which they are packt is 4 inches larger each way and 8 inches deeper than the brood-chamber, and that space is filled with chaff which makes it very warm; and for a roof it is in the form of a shanty with shingles on it.

The entrance is the full width of the brood-chamber, and is left open all winter. I tried to contract the entrance when I first commenced, but I soon found out that they didn't get enough air.

I always tip the hive a little to the front so as to let the moisture run out if there is any; the hives are 6 or 8 inches from the ground, as the bees winter lots better that way. I have been wintering a few in two stories (and they seem to come out better than in the single brood-story)—with the

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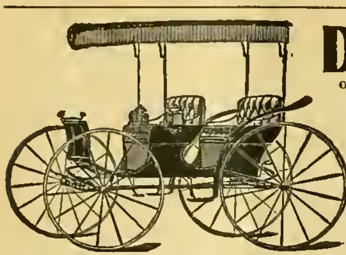

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The Novelty Pocket-Knife.

Your Name and Address on one side—Three Bees on the other side.

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HONEYVILLE, O.

[THIS CUT IS THE FULL SIZE OF THE KNIFE.]

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and in case of death, your relatives will at once be notified of the accident.

How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

How to Get this Valuable Knife.—We send it postpaid for $1.10, or give it as a Premium to the one sending us THREE NEW SUBSCRIBERS to the Bee Journal (with $3.00.) We will club the Novelty Knife and the Bee Journal for one year, both for $1.90.

GEORGE W. YORK & CO., 118 Mich. St., Chicago, Ill.

☞Please allow about two weeks for your knife order to be filled.

honey in the top story, and empty combs in the bottom story. All I have to do is to make a rim the same size as the outside shell, to sit on top. If any one wishes to try this experiment in wintering in two stories, we can explain it in another way.

I am 13 years of age.

MISS EMMA BANKER.

Brown Co., Minn., March 19.

A Minnesota Report.

This part of Minnesota (a little south of central) is favorably endowed by nature for keeping bees. Basswood, white clover, and a variety of honey-producing wild flowers abound in the most favored places. Farmers are beginning to sow alsike clover, and find that it grows well. An occasional stalk of sweet clover seen in gardens and elsewhere, stands as proof that their kind will do well here.

I would guess that we have about 1,000 colonies of bees within a radius of 10 miles from here. A great many of these are kept in a rude way. I commenced in the bee-business last spring with 11 colonies. One of these was weak, and "dwindled out," so I had only 10 to begin the season with. These increast to 23, and gave a surplus of about 400 pounds of comb honey. The season for this place was not very good.

We have a good market here at home for comb honey at 15 cents per pound.

Bees seem to be wintering well here this winter. They will need to be in winter quarters about two or three weeks yet.

From my experience last spring I learned that early breeding can be helpt along to protect them in some way to keep them warmer. For one thing, use a pad or cushion of some kind over the brood-frames. Perhaps nothing would answer better than a chaff cushion. But since the present age of "blowers," chaff is a scarce article. As a substitute I think of trying bran. I have an excess of supers, and mean to utilize them to hold the bran. I will tack thin muslin on the inside of the super, and let it sag downward to a level with the bottom; then fill in enough bran to make a warm cushion. The brood-frame cloth will intervene so the super-cloth can not be waxt down. In this way it can be put off and on with convenience, and even used over the section super during the early part of the honey-flow to protect the bees during the cool nights, so common in this part until late in the summer. If I am wrong about substituting bran for chaff, I will be pleased if some one will kindly inform me.

I believe bee-keeping is one of the fine arts, and to keep abreast with the times one should take literature on the subject. Another thing, I believe the life and activity of the bees in an apiary will be increast by adding an occasional fine queen from another yard.

E. S. ROE.

Todd Co., Minn., March 26.

Mild Winter, Smelter Smoke, Etc.

Spring is with us once more, the bees are humming, the birds are singing, and the bee-keepers are hopeful. They are looking into the future with renewed confidence, and why should they not, when all nature is putting on new life? even seedtime and harvest do not exhilarate the human family with as much joy and hope as the glorious spring. The beautiful, balmy springtime comes as a joyous gladdening of the heart from the winter of our discontent.

But while we greet with pleasure the return of spring, we can not complain very much of grim winter this time, for we have had a mild and not a very unpleasant winter; and the bees in the greater part of the State have wintered fairly well; the indications for good crops and a good honey-flow are encouraging. The weather here now is beautiful, it is like the month of May, but last year the month of May was like March, with rain, snow and frost, or cold weather, nearly the entire month, causing the bees to die off in many parts of the State, instead of building up as they otherwise would have done, and this caused a partial failure of the fruit crop and the honey-flow. But this year it is quite the reverse—the bees are carrying in pollen, the buds are out, and a few blossoms on the hillside, and the outlook for our bee-keepers having strong colonies are favorable; we hope to hear of a successful year for them.

But I regret to say that with all the encouraging indications some of our bee-keepers who had the misfortune to be located in the wake of the smelters, lost the greater portion of their bees in the fall and winter. When other conditions are favorable the bees appear to get along all right in the spring, but along in August the poisonous smoke seems to settle on the bloom, and as the bees visit the blossoms it appears to affect them so that they crawl on the ground and die in such numbers that there is not enough bees left in the hive to stand the winter, and the bees seem to be in such poor condition that to double them up does not seem to help them much. The evidence in regard to the destructive effects of the smoke is pretty conclusive, for we find that near the smelters no bees will live any length of time at any time of the season, that is, within a radius of a mile or two, and it has been proven that cats, dogs and stock pasturing in the vicinity have died from the effects of the smoke; and in the direction that the smoke most often blows, the bees sometimes die from its effects thru the fall and winter, 10 miles off. As I have stated, the bees are not the only sufferers, hence the situation is getting to be a serious one, and something should be done to have this poisonous, destructive smoke consumed, condenst, or settled at the works instead of being scattered broadcast as it now is. To say the least, it is an outrage on the people, and something should be done for its suppression.

E. S. LOVESY.

Salt Lake Co., Utah, March 15.

Convention Notice.

Chicago.—The Chicago Bee-Keepers' Association will hold its regular semi-annual meeting in Wellington Hall, 70 N. Clark St., Chicago, Ill., April 6, 1900, afternoon and evening. The meeting will be called to order at 1 p.m. Dr. C. C. Miller is expected to be present if his health will permit. Mr. E. R. Root has been invited, also Mr. N. E. France, and others. A good time may be expected by all. Let every one come, especially the ladies.

Park Ridge, Ill. HERMAN F. MOORE, Sec.

Yellow Sweet Clover Seed

WE HAVE IT AT LAST!

We have finally succeeded in getting a SMALL quantity of the seed of the YELLOW variety of sweet clover. This kind blooms from two to four weeks earlier than the common or white variety of sweet clover. It also grows much shorter, only about two feet in hight. It is as much visited by the bees as the white, and usually comes into bloom ahead of white clover and basswood. We offer the seed as a premium

A QUARTER POUND FOR SENDING ONE NEW SUBSCRIPTION.

So long as it lasts, we will mail a quarter pound of the seed to a regular paid-up subscriber who sends us ONE NEW subscriber for the American Bee Journal one year, with $1.00; or ¼ pound by mail for 30 cents.

We have been trying for years to secure this seed, and finally succeeded in getting it. It is new seed, gathered last season by an old personal friend of ours, so we know it is all right. But we have only a small supply. When nearly out we will mention it.

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Smokers, Sections,
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The A B C of Bee-Culture says of it: "This is a beautiful plant for the flower-garden, to say nothing of the honey it produces. It grows from two to three feet in hight, and bears large clusters of bright pink flowers. It grows naturally on the Rocky Mountains, and in Colorado, where it is said to furnish large quantities of honey."

We have a few pounds of this Cleome seed, and offer to mail a ¼-pound package as a premium for sending us ONE NEW subscriber to the American Bee Journal, with $1.00; or ¼ pound by mail for 40 cents.

GEORGE W. YORK & CO.
118 Michigan St., CHICAGO, ILL.

We Call the attention of our readers, particularly the ladies, to the advertisement of Crofts & Reed, Chicago, which makes its first appearance in this issue. This firm make a very fine line of toilet preparations, such as soaps, perfumes, extracts, etc, and have adopted a unique plan of selling. As will be seen by the advertisement, they mail free a handsomely illustrated book of premiums—these are chiefly practical household articles, such as furniture, rugs, lamps, etc., as well as watches, cameras, etc., for the boys and girls. The offers based on these premiums are astonishingly liberal. From the fact that Crofts & Reed are willing to send both the goods and the premiums for examination and on trial for 30 days if desired, it would seem that such confidence in their goods on their part ought to beget the confidence of their customers. We are sure many readers of the American Bee Journal will find it advantageous to secure without delay one of the premium lists. Please address Crofts & Reed, 842–850 Austin Ave., Chicago, Ill., and mention this journal.

The Emerson Binder

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

GEORGE W YORK & CO.
118 Michigan Street, - CHICAGO, ILL.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, March 19.—We quote best white comb at 15c. An occasional small lot of fancy sells at 16c; off grades of white, 12@14c; ambers, 10@12c. Extracted, 8@9c for fancy white; 7@8c for amber; 6@7c for dark grades. Beeswax, 27c.

Receipts of honey are larger and the demand is not as good as it has been.

R. A. BURNETT & CO.

CINCINNATI, March 3.—There is some demand for extracted honey from manufacturers at 7@7½c for amber and Southern; clover, 8@8½c. Comb honey is selling firm at 14@16½c in a small way. Beeswax, 25@27c.

C. H. W. WEBER,
Successor to Chas. F. Muth & Son and A. Muth.

LOS ANGELES, March 1.—1-pound frames, 12½@15c; 2-pound cans, 2 dozen in case, per dozen, $2.50; 2-pound glass pails, per dozen, $2.50. Extracted, water white, 60-pound tins, per pound, 8½c; light amber, 7½@8c; dark amber, 7½c. Beeswax, 25@26c.

The prospect for a crop is very bad. Small lots in the hands of wholesale houses are firmly held.

BOSTON, March 9.—Our honey market is showing some signs of lower prices, altho the stock on hand is not large. At the same time prices are so much higher than previous years that the trade have taken it very slowly and the results are that the holders are willing to range prices quite a little in order to move stock on hand. Prices range: Fancy white, 17@18c; No. 1, 15@16c; amber, 10@12c; buckwheat almost unsalable. Extracted, best white California, 8½c.

BLAKE, SCOTT & LEE.

KANSAS CITY, Mar. 19.—We quote fancy white comb, 15c; No. 1, 14c; No. 1 amber, 13c; No. 2 amber, 13½c. Extracted, white, 8c; amber, 7c; dark, 6c. Beeswax, 22@25c

C. C. CLEMONS & CO.

BUFFALO, March 3.—Market nearly bare of all grades of honey. Probably no more from any source to market, but if so, fancy white comb is firm at 15@16c. Other grades from 14c downward, with the poorest at 8@9c. Fancy pure beeswax continues at 28@30c.

BATTERSON & CO.

NEW YORK, Mar. 8.—During the past 30 days our market has been somewhat slow and easy in both comb and extracted honey. Stocks of comb honey, however, are almost exhausted, and there is a fair demand for all grades. Fancy white selling at 15c; No. 1 white at 13@14c; fancy amber, 11@12c, and buckwheat at 9@11c, according to quality, etc.

Our market is well supplied with extracted, tho prices are firm and unchanged. Beeswax sells very well at from 26@28c, according to quality. HILDRETH & SEGELKEN.

SAN FRANCISCO, Mar. 28.—White comb, 11½@12½c; amber, 8@10c. Extracted, white, 7½@8c. light amber, 7@7½c; amber, 5@5½c; Beeswax, 26@27c.

Supplies and demand are both at present limited, which is to be expected at the close of a light crop year. Business doing is mostly of a small jobbing character, and at practically the same figures as have been current for some time past.

OMAHA, Mar. 13.—Demand shows some improvement in January, having been much more active, but as anticipated there is no advance in prices. Market remains steady at 14@14½c for fancy white comb and 8½c for white extracted. The latter is pretty well cleaned up along the Missouri River, and it looks as if there would be some shortage before another crop comes in. From present appearances there is about enough comb honey to go around at the present prices, hence we look for no particular change in values. PEYCKE BROS.

Wanted! Your HONEY
We will buy it, no matter where you are. Address, giving description and price,
34Atf THOS. C. STANLEY & SON, Fairfield Ill.
Please mention Bee Journal when writing.

Wanted to Buy Honey Would like to hear from parties having extracted honey to offer, and their price delivered in Cincinnati. I pay cash on delivery.
C. H. W. WEBER, Successor to C.F.Muth & Son,
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BRASS
SMOKERS

made of sheet-brass which does not rust or burn out should last a life-time. You need one, but they cost 25 cents more than tin of the same size. The little pen cut shows our brass hinge put on the three larger sizes.

No wonder Bingham's 4-inch Smoke Engine goes without puffing and does not

DROP INKY DROPS.

The perforated steel fire-grate has 381 holes to air the fuel and support the fire.

Prices: Heavy Tin Smoke Engine, four-inch Stove, per mail, $1.50; 3½-inch, $1.10; three-inch, $1.00; 2½-inch, 90 cents; two-inch, 65 cents.

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are the original, and have all the improvements, and have been the STANDARD OF EXCELLENCE for 22 years. Address,

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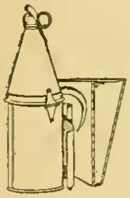

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To say to the readers of the BEE JOURNAL that

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has concluded to sell QUEENS in their season during 1900, at the following prices:

1 Untested Queen ..$1.00
3 Untested Queens.. 2.25
1 Tested Queen 1.25
3 Tested Queens.... 3.00
1 select tested queen 1.50
3 " " Queens 4.00
Select Tested Queen, last year's rearing. 2.50
Extra selected breeding, the very best.. 5.00

Circular free, giving particulars regarding each class of Queens, conditions, etc. Address,

G. M. DOOLITTLE,
11A26t Borodino, Onondaga Co., N. Y.

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23rd Year Dadant's Foundation. 23rd Year

Why does it sell so well?

Because it has always given better satisfaction than any other.
Because in 23 years there have not been any complaints, but thousands of compliments.

We guarantee satisfaction.

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PATENT WEED PROCESS SHEETING.

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Langstroth on the Honey-Bee, Revised.

The Classic in Bee-Culture—Price, $1.25, by Mail.

Beeswax Wanted at all times.

CHAS. DADANT & SON,
Hamilton, Hancock Co., Ill.

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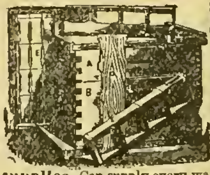

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has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.

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PATENT WIRED COMB FOUNDATION

Has no Sag in Brood-Frames.

Thin Flat-Bottom Foundation

Has no Fishbone in the Surplus Honey.
Being the cleanest is usually workt the quickest of any foundation made.

J. A. VAN DEUSEN,
Sole Manufacturer,
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The Mississippi Valley Democrat
—AND—
Journal of Agriculture,
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A wide-awake, practical Western paper for wide-awake, practical Western farmers, stock-raisers, poultry people and fruit-growers, to learn the science of breeding, feeding and management. Special departments for horses, cattle, hogs, sheep, poultry and dairy. No farmer can afford to do without it.

It stands for American farmers and producers. It is the leading exponent of agriculture as a business, and at the same time the champion of the Agricultural States and the producer in politics. Subscription, One Dollar a Year.

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That covers the whole Apicultural Field more completely than any other publisht, send $1.25 to Prof. A. J. Cook, Claremont, Calif., for his

Bee-Keepers' Guide.

Liberal Discounts to the Trade.

Veils, 35 cents, postpaid.

Silk brussels front, none better; your money back if not satisfied.

BEES

We have 12 good colonies of bees, on frame 10x15 inches, for sale at $5.00 per colony, including hives. Will ship from N. Y. City. Catalog of Apiarian Supplies and Bees free. I. J. STRINGHAM, 105 Park Place, New York, N. Y.

Apiaries, Glen Cove, L. I. Please mention Bee Journal when writing.

Marshfield Manufacturing Company.

Our specialty is making SECTIONS and they are the best in the market. Wisconsin BASSWOOD is the right kind for them. We have a full line of BEE-SUPPLIES. Write for free illustrated catalog and price-list.

MARSHFIELD MANUFACTURING CO., Marshfield, Wis.

Please mention Bee Journal when writing.

GEORGE W. YORK, Editor.

AMERICAN BEE JOURNAL.

ESTABLISHT IN 1861 OLDEST BEE-PAPER IN AMERICA

DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS.

40th YEAR. CHICAGO, ILL., APRIL 12, 1900. No. 15.

CONTRIBUTED ARTICLES

A Kansas Apiary—Several Queen Experiences.

BY SILAS HARTER.

THE accompanying is a picture of my 3-year-old apiary from a beginning of one colony, the second year buying four. How is that for central Kansas? The picture was taken on Jan. 19. The bees were flying and a few were bringing in pollen.

Apiary of Mr. Silas Harter, McPherson Co., Kan.

It will be noticed that I am in shirt sleeves, and not uncomfortable. My posture would indicate that I have been a laboring man, and that I am a little round-shouldered, nevertheless I am enjoying the best of health. The one in the distance is one of my sons, "Will," who will soon graduate from our college here. The trees you see are cherries, and in summer make quite a cozy place for the bees.

Now, don't think I have a telephone to my apiary — it is only a clothes-line.

If you won't laugh, I will tell a little of my experience at roasting a queen. One bright morning I received a nice Italian queen from a breeder in the East, to give to a queenless colony. As the bees and queen in the cage seemed to be a little chilled, I thought I would place them in the sunshine by the window. I left them there for perhaps an hour, when, on my return, to my astonishment, all were dead as a doornail. So another lesson was learned, and quite a loss sustained, as it was early in the season.

At another time, on receiving a queen I desired to clip her wings, and so opened the cage at the window, thinking all was closed, but to my astonishment the upper window was down a little, and out went the queen. Well, I thought she was gone, but I quickly raised the window and after flying around awhile she flew in. I thought myself more lucky than wise. But another lesson was learned, to be a little more careful. I think this rule should hold good in all our work with bees.

McPherson Co., Kan.

NO. 5.—COMB HONEY PRODUCTION.

Managing Swarming—Strong Colonies Only for Good Section-Work.

BY R. C. AIKIN.

WHEN swarming begins, what shall be done? Whatever is the method of handling swarms, it should be done in such way as to keep the section-work going right along. The handling of swarms is one of the things I have had only a limited experience in. True, I have had a good many swarms in 25 years of practice, and, comparing my experience with that of the average apiarist, perhaps it would not be strictly true to say that I have not had much experience. Here is how it is:

The first few years after I began bee-keeping I had only fall honey-flows, coming the last of August and first of September, generally about a month of flow, and about equally divided between August and September. Late honey harvests do not cause much swarming, and if one is in a location with no early flow, and the main harvest just before frost in the fall, he has indeed a very easy time of it compared with those of us who have the early flow. Just think of having all spring and summer till Aug. 1 to 15 to get ready for a honey harvest!

That is what I had in my first few years in bee-keeping.

After this came the white clover flows in June—once it began the latter part of May. I think I am safe in saying that swarming was all of four times greater, and equally more troublesome when my harvest came in June. I practiced hiving swarms back, and sometimes uniting two weak ones, or putting small swarms in with weak colonies, the object being to have strong colonies for section-work.

To hive a swarm back to where it came from is like trying to put a fire out by adding fuel. I cut out cells only to have them rebuilt in very many colonies. Some would remain content and do good super work, but many would not. Some would stay a few days till new cells were started, then swarm again, and some would come out without waiting to build new cells.

Neither is it satisfactory to hive swarms in with other colonies, unless both the swarm and the bees of the colony to be united be dumpt together off the combs. In later years I often mix up bees from several colonies and put all into one hive, and it can be successfully done, and such colonies be made to do fine work. The colony into which the others are to be put should be thoroly subdued, and their sacs filled till all the fight is taken out of them, or else they should be shaken from the combs among the others, and all allowed to run in together. Managed in this way small swarms, or small swarms and weak colonies, may be run together for section-work.

With the exception of about two seasons in which I had much swarming in June (this was my first experience with honey-flows and swarming at that time of year), I have very largely increast by division, and kept down swarming to the minimum. However, there are always a few swarms that I have to contend with, some strays, some my own, owing to some colonies becoming queenless and unknown, and some by supersedure of the queens, and sometimes I get behind and let the bees get the start of me. So it comes about that I handle a few swarms almost every season.

To hive an average swarm in a 10-frame hive means very little super-work unless the flow be very good. To hive in either an 8 or 10 frame hive on ready-made combs also means that very little or no super work is done *except* in *very good flows*. To hive on 5 or 6 frames with starters, and put on a partly-workt super, or one with bait-combs, will be better than the former plan. I practice hiving in a contracted chamber of not to exceed six Langstroth frames—sometimes I hive on about four *combs* ready built. I also use a half of a divisible brood-chamber for this purpose. As nearly as I know, I should advise to hive on starters and only 6 to 8 frames, and put the supers over from the old hive on the new, hiving on the old stand and putting the old on a new stand. I would also shake out the bees from the old to the new.

Whatever plan is used, if you can not control swarming, when swarms are hived be sure that the brood-chamber room is contracted to correspond to the bees so that they *must* work above if they do much at all. I should be inclined to put two swarms into one, or three into two, and give whatever was my standard brood-chamber, for it is very much better to have one strong colony store 50 pounds than to have two store only 25 pounds each. The 50 pounds stored by one colony will be better finisht than the 50 pounds by two colonies.

My practice is to have every colony that works in sections very strong, and if I can not keep them from swarming I take away enough of their brood to discourage swarming. Have so many bees in the hive that in a reasonable flow they will work two supers at once, and at the same time occupy an 8 or 9 Langstroth-frame brood-nest. Such a colony is a strong one, and here is about how it will work:

If the flow be moderate, about two to three pounds a day gain for such a colony, and lasts 30 days, I would expect about one super of 28 sections filled—say 25 pounds. The same and the average daily gain about four pounds I would expect two supers finisht. To increase the daily gain, or to continue the flow longer, would mean a proportionate increase in the surplus. According to my way of looking at the problem, a colony should not be expected to work sections unless it be strong enough to handle a 6 to 8 Langstroth-frame brood-chamber, and at least two 24-section supers in a moderate flow. Such a colony will surely go into the sections whether they use them or not, and they will surely use them if there is a flow that would give a crop. Such colonies will give more or less of a crop when those allowed to swarm would give *none*.

It discourages me to try to get a crop of honey from an apiary allowed to swarm freely, for I surely consider a colony that has swarmed not of sufficient numerical strength to do nice section-work in an average season. It also discourages me to try to tell anybody else how to succeed and allow the bees to swarm. I think I will just say if you will succeed in the production of comb honey, you *must* curtail swarming, or else double up swarms and colonies till you have proper masses of bees together.

Take an apiary of 100 colonies, build them up as strong as you can by the time white clover blooms, then if you can take 50 or 75 of the best of them and run them for section honey, and not let one of them swarm, you have my ideas of proper strength of colonies. Do this, and in doing it follow the methods I have been describing to keep off the swarming-fever, then if any get the start of you and swarm, just hive them in a contracted brood-chamber, or take away part of their brood and substitute frames filled with foundation, and put them back into the old hive.

If you want increase, make it by dividing your weak colonies, and not ask them to put up surplus. If you can do this I will guarantee you will get honey to sell when your neighbors do not have any, and when your neighbors have moderate crops you will have good ones, and when they have good ones you will have at least three to their two. More than this, when others have to feed or lose their bees you will have little or no feeding to do, and when others have No. 1 honey you will have *fancy*.

I have for nearly 10 years controlled swarming by unqueening just about the beginning of the flow, and for a locality having but one flow lasting four to six weeks, or less, I know of no method that will give better results. Now, my locality is somewhat changed, practically having two flows, hence I am changing my method. Abundance of room and ventilation before the flow; flow started, contract the brood-nest to normal, and give plenty of super-room (all you can get them to use) with bait-combs, and remember *always*, that if we can get a colony to *working in two or more supers before they get in the notion of swarming*, they will not swarm much if they are kept with plenty of super-room. Larimer Co., Colo.

Can a Good Queen be Reared in a Nucleus?

BY DR. C. C. MILLER.

WHEN I first began working with bees I learned that a small number of bees were sufficient to start queen-cells, if furnisht with proper brood, and that they would therefrom secure a laying queen. I was delighted to think with what rapidity an apiary could thus be built up. But I soon learned that sometimes "things are not what they seem." I reared some very poor queens; in one case a queen laid one egg and died; in some other cases they did not even lay as many as one egg before death.

From that I went to the other extreme, adopting the belief that to get good queens the cells must be started in full colonies and left there at least until sealing. I still held that belief as late as a year ago, and in reply to a question, I said:

"If you put in a hive a frame of brood, another of honey, and a pint of bees, they may protect themselves against robbers, and they will be pretty sure to rear a queen, but the chances are that the queen will be a very poor affair. Don't think of having a queen reared anywhere but in a strong colony, at least until after the queen-cell is sealed." (Page 199, March 30, 1899.)

Commenting upon this, G. M. Doolittle said on page 371, "Without any precaution toward making the bees stay on that frame of brood, they would all leave, and if so *no* queen would be reared at all—a *poor affair* or otherwise; but where bees are taken from an out-apiary and kept in a nucleus-box without any queen for 24 hours, at the expiration of which a *quart* of bees is turned loose on two frames fixt as the questioner proposes, they will rear *just as good* queens as by any of the plans used which deprive the colony of its *queen* while the cells are being built, as I have proven time and time again; for, while in the nucleus-box they do 'so long' for a queen that nearly all of them will prepare royal jelly, and when they have access to brood they will just 'flood' the young larva chosen for a queen with it nearly, if not quite, equal to those being reared in a colony preparing to cast a swarm. And a quart of bees on the two frames will keep up the necessary heat to fully perfect those queens, where treated as I have given, fully as good as will a strong colony whose queen has been taken from them that they may rear queens."

I studied over that paragraph very carefully. If I understood it correctly, it plainly taught that a quart was just as good as a strong colony of queenless bees to rear queen-cells and queens from start to finish. If that was true, I was in error to teach the reverse. Mr. Doolittle was one of the leading queen-breeders of the world, so had had many times the opportunity that I had had to observe the matter, as I was not a queen-breeder, only a honey-producer. But the bare possibility that Mr. Doolittle might be mistaken was still left in my mind, and I thought there was no great need to change my opinion in haste, as my error, if error it was, was on the side of safety. I could afford to wait until the opportunity came either from my own experience or the testimony of others to help settle me on one side or the other.

Such opportunity has now come. In reply to the question, "When dividing bees is it best to rear queens for them, or let the queenless part of the division rear a queen for themselves?" Mr. Doolittle replies (Gleanings in Bee-Culture, page 175):

"I consider any plan of division, which compels the queenless part to rear their own queen, as faulty. Because, in the first place, *good* queens are reared only in a colony very populous in bees, of *all ages*, with honey and pollen coming in from the fields, enough to supply their wants. Of course, this honey and pollen part can be supplied by the apiarist, if deficient in nature; but the *populous* in bees part can not possibly obtain with a divided colony."

If I understand that correctly, it means not only that a *good* queen can not be reared in less than a full colony of bees, but that the colony must be "very populous in bees." I can hardly say that I am glad to know the requirements are so exacting, but I am very glad to be left no longer in doubt. If I have been correct in interpreting Mr. Doolittle, he has changed his views in the past 12 months—a thing we must all do occasionally if we are to make any progress.

The important thing about the matter, sufficiently important to be worth while to take up several pages of this bee-journal with it, is to have it clearly and emphatically known that no nucleus will do to rear queen-cells; or, to put it in the words of Mr. Doolittle, that "*good* queens are reared only in a colony very populous in bees." For if it should be believed that a quart of bees is just as good as a strong colony to rear queen-cells, there are thousands who would rear queens in nuclei, and thousands upon thousands of dollars would thus be lost in the honey-crop by means of poor queens. If we are to have the best in the line of queens, I believe it can hardly be emphasized too strongly, that up to the time queen-cells are sealed they must be in full colonies. From that time on I do not feel so sure about, but I think that a nucleus of good strength will be all right after the cell is sealed. McHenry Co., Ill.

The Marks Frame and the Case Feeder.

BY F. GREINER.

WITHOUT fear of contradiction I am safe in saying that the physical make-up of man is such that no two persons can be found among the many millions, that represent another in every particular, altho all are built on the same general plan by the Creator. The nose is centrally located in every face, and the other organs bear the same relationship to the nose, are groupt around it the same in one person as in the other, etc. What is true in the physical make-up is also true in the spiritual and intellectual. And that is the reason why we do not all of us see all things alike; why we so often disagree on the things relating to our pursuit; why one man rides this hobby, another a different one; why the deep frame meets the requirements of one, the shallow frame the ideas of another, etc. Just so long as we live this state of affairs will remain, and the bee-keepers will continue to fix, and change, and remodel, and improve.

If I now attempt to say a few words about a new brood-frame and a new bee-feeder, it is with that thought, to perhaps meet the requirements of some one who is still seeking for something better, or at least for something *to suit him* better; for changes are not always improvements.

The Marks frame is not an entirely new thing—it was even mentioned and illustrated in Gleanings in Bee-Culture a year or two ago. However, a good thing has many a time to be pusht and brought before the public again and again before it is recognized as such.

The spacers of the above frame are simple pieces of ⅝ or ¾ inch hoop-iron about two inches long. They are inserted at the upper ends of the end-bars into properly cut saw-kerfs, in imitation of the Hoffman frame. Mr. Marks' idea is to place both spacers on one and the same side of the frame. It is plain that the Marks frame with the spacers thus arranged must not be used reverst, but must be placed spacers against the flat side of the next frame. On this account it has been criticised. But, really, is this a serious disadvantage?

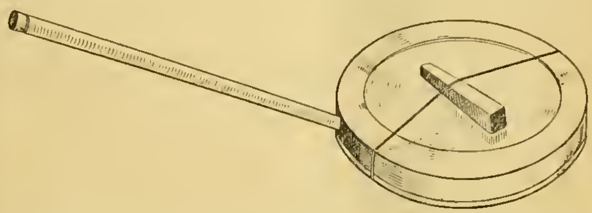
In discussing the merits of this frame with a number of bee-keepers of our county, one of them said: "Why, with that frame one can not possibly get it into a hive the wrong way." Another one of those present took the opposite view.

The fact seems to be the Marks frame *may* be put in wrong side to, but no one with any eyes at all *would* put it in wrong. With the swinging frame—the Hoffman or any other frame—in returning combs to a hive it may occur that we are uncertain as to which way they had been in the hive; we may make a mistake and get one wrong. We do not find this out until we have tried. The frame must then be taken out again and reverst, for no frame, when once matcht in, fits exactly in any other place. I confess I have occasionally had some trouble in this direction. With the Marks metal-spaced frame this would not have happened.

However, if any one should like the Marks *spacer*, and not the other feature of the frame, there would be nothing to hinder *changing one spacer over to the other side of the frame*. But from what experience I have had with any of the self-spacing frames, I would to-day rather have the spacers on *one* side than otherwise. We do not nowadays manipulate the frames very much, and when we do, we want to return them in the order they came out, at least in nine cases out of ten, so what's the difference?

FEEDERS AND FEEDING.

In localities where the surplus is gathered mostly from white clover, the practical bee-keeper finds stimulative feeding early in the season of great advantage. Such feeding has to be done every day, and in small doses, and the feeder that admits this kind of feeding without opening hives and disturbing bees, it would seem, would at once find favor among bee-keepers. I herewith present a drawing of such a feeder as has been in use here among the bee-keepers in the eastern part of this county (Ontario) for a good many years. As I do not know who the inventor is, I will name it the "Case Feeder," as Mr. H. L. Case explained its workings before the Ontario County Bee-Keepers' convention a short time ago.



The drawing almost explains itself. The feeder is a shallow tin box about four inches in diameter. The bottom is removable and perforated. The long spout is to reach clear to the outside of the hive, and the feeder may be filled without opening the hive or disturbing the bees. It is a time-saver.

As Mr. Case says, just go thru a large bee-yard and take all the covers of the hives off and put them back on. Do that with 100 hives, and you will find it quite a job, especially with clumsy chaff hives. This feeder is tuckt away under the cushion immediately over the cluster of bees, the spout running to the outside, either at the rear or side of the hive. The filling is done by the help of a little funnel with an elbow to it. As soon as the feed is poured in, the spout must be closed with a tight-fitting cork. There is but little work connected with this kind of feeding, and no heat is lost opening hives. Ontario Co., N. Y.

Reversible Frames, Beeswax, Etc.

BY G. M. DOOLITTLE.

A CORRESPONDENT writes: "I have been reading up some old bee-literature, and in it I find quite a little about reversible frames. Are they something of value? If so, I shall desire to make some before the swarming season opens. Please tell us something about them in the American Bee Journal."

ANSWER.—Reversible frames were one of the disputed questions of the past, they having quite an extended airing some 12 to 15 years ago. Very many of our most prominent bee-keepers gave them a very thoro trial, but so far as I know there is not an apiarist of any prominence using them to-day; or, if any such are using them, they do not consider them of enough value to say anything about them in bee-literature now.

The main thought and object for which they were brought into existence was that of compelling the bees to store all of their honey in the sections, by reversing the frames as often as the bees lengthened out the cells along the top-bars of the frames and filled them with honey. By thus placing this honey in an unnatural position it caused the bees to remove it, and as there was now brood in the upper part of the frames, the bees would be constrained to store this removed honey in the sections.

At first sight this theory looks very nice, but when it was put into practice it was found the bees did not "think" as did the theorist, and colonies so workt accumulated no more in the sections than did others that were let alone, while at the end of the season the colonies let alone showed a decided advantage, inasmuch as they had honey to winter on, with little or no honey in those whose frames had been reverst several times.

The claim was also made that the reversing of the frames would do away with swarming, as the queens occupying the reverst queen-cells all die. Many queens in the embryo form would thus die; but as swarms were sure to issue from queens not killed by reversing, or by the swarms coming out without any capt queen-cells, or little if any preparation along the line of queen-cells, the reversing of frames for this purpose proved fully as fallacious as for section-honey.

The only advantage I could ever discover by reversing frames was that, by thus doing, the combs would be built as perfectly to the bottom-bar of the frames as to the top-bar, so that the trouble of ridding the frames of bees on account of their hiding in the space between the bottom-bar and the comb was obviated. While this was some gain, yet I never found the gain here to be sufficient to pay for the trouble and cost of reversible frames. This can be accomplisht in other ways, such as placing the frames in an upper story for one season, extracting the honey from the same, or using such frames for winter stores. After they are thus filled there is no necessity for placing them in the upper story again, unless it is so desired for some other purpose besides having the frame entirely filled with comb.

RENDERING AND CLEANSING BEESWAX.

Another correspondent writes: "I have a lot of old combs which I wish to render into wax, and a lot of old dirty beeswax which I wish to change to the nice yellow wax usually found in the comb foundation sent out. Will you tell me thru the columns of the American Bee Journal how this can be done?"

ANSWER.—As to the old-comb part, I very much doubt whether there is a better way for the rank and file of bee-keepers to render such into wax than by using the sun or solar wax-extractor. I have tried many plans, such as a kettle of boiling water, with the comb placed in an old burlap sack, the same being workt with a hoe or plunger till the wax was workt out and rose to the top; and other methods of getting out by water; the Swiss wax, and other steam extractors; the dry oven method, etc., but I have laid all of these aside, and now use the solar wax-extractor altogether. It has a convenience in storing combs and bits of wax, till full, and then in rendering without "fuss or feathers," by simply removing the covering from over the glass on any sunshiny day, not possest by anything else. Almost any supply dealer keeps them for sale.

It is claimed that *all* of the wax can not be gotten out of the combs in this way, but if any person will take off the glass frame, after the most of the wax has run out, and with a trowel, or something similar, rub down the refuse, so as to break down the cocoons that may remain whole, I think he will have no trouble in securing fully 99 percent of all the wax contained in any comb, no matter how old or tough they may be. At least I never find any such quantities left in the "slumgum" from my wax-extractor as others tell of, and I have boiled and prest it many times to see if I was wasting enough to pay me for putting it thru this process, as many claim they do.

Regarding the cleansing part, wax coming from a solar wax-extractor is more nearly perfect as regards any impurities than that obtained by any other process, and rarely needs any cleansing except straining. At least that is my experience, for it is always nice and yellow, no matter how old and black may be the combs from which it came. Many of the comb-foundation makers use certain chemicals to bleach and cleanse their wax, if I mistake not, and if the questioner has dirty wax to the amount of hundreds of pounds, it may pay him to enquire of them. Regarding the use of these I know nothing, and I doubt whether the ordinary practical bee-keeper, with only a limited quantity of wax, could make it pay to use chemicals for purifying beeswax even were he familiar with their use.

Any plan by which the wax is kept in a liquid state for a long time, the same being perfectly stationary during this time and while cooling, and using quite a body of water with the wax for the dirt to settle into, has a tendency to separate the impurities from the wax, and give it a bright yellow color.

If, in addition to the above, a pint of good, strong vinegar is used for every ten pounds of wax and one quart of water, the result will be more satisfactory. My plan before using the solar wax-extractor was as follows:

Put 10 pounds of wax, one quart of water, and one pint of strong vinegar into a flaring tin dish, and set it on the stove until the wax is melted and the whole becomes as hot as it will bear without boiling over. If there are impurities of any size it should now be strained thru common cotton-cloth, or these impurities are likely to be partially imbedded in the wax at the bottom of the cake when cold, so as to make the job unsatisfactory. Having this accomplisht, spread down two or three thicknesses of old carpet, or two or three horse-blankets, where the wax is expected to stay until cold; then set the vessel of wax in the middle, and wrap over the top and sides the unoccupied parts of the blankets until the whole is well protected from the outside air, so that the whole may be four or five hours in cooling. If you will watch the liquid you have in the vessel before covering it up, you will note that the whole mass seems to be in agitation, rolling and turning about as tho it were alive. This is the work of the vinegar, and that which makes the dirt separate more perfectly from the wax than it otherwise would. If strained as given above, there will be only a fine dross at the bottom of the cake, which is easily separated from the wax by scraping with a dull knife.

Onondaga Co., N. Y.

Breeding Bees for Business.

BY FRANK COVERDALE.

I AM very glad to see that at least a few people in our ranks are beginning to look more thoroly after a good honey-gathering stock of bees, and other good qualities, such as hardiness, non-burr-comb builders, and white cappers, all of which amount to a very great deal to a comb-honey producer in full, and in part to the bee-keeper who extracts.

I must confess that I have heretofore been far too negligent along this very important line. Who would believe me, if I should say that a large portion of the queens sent out by our breeders are behind the average black stock over the country? During the past two years I have purchast upward of 50 queens from different breeders, and nearly every one has fallen short as a honey-gatherer, but for beauty, gentleness and prolificness nearly all were by far ahead of average black bees.

The above fact, in my estimation, doesn't condemn any race of bees, but strains of bees, or in other words, bees that have been bred for a standard which did not take a proper estimate of the honey-gathering quality. Bees left to themselves in the wild state do of their own accord (in the northern climate, at least) perpetuate the honey-gathering qualities to quite a far-reaching degree; because a poor season comes along at intervals, so poor that only the greatest hustlers will have enough stored to carry them thru. Just so among our slipshod bee-keepers of to-day—one year in 20 will use up a whole apiary from starvation except a few of the best gatherers, which leaves good stock to begin with after the poor, or, I should say, very poor season is gone. But can't we make the same selection every year that would take nearly 20 years? Progress is in a rapid state on all lines, and I believe that the queen-breeder of the future must look well after the more weighty matters.

A few years ago, when attending our State fair, and going the rounds of the different bee and honey exhibits, I came across a very beautiful strain of bees, and they appeared to be very gentle; I was assured by the owner of them that they were hustlers both to gather honey and to cap over their combs white. The gentleman did not make a specialty of rearing queens, but he was anxious that I should try his strain of bees, and at once made me a present of one of his queens, which proved to excel all other queens that I ever owned, either before or since. Her workers would gather six and seven supers of honey while no other of the 50 colonies by their side scarcely finisht half the above amount, and nearly all the yard gathered only one and two supers each. I would give $50 for such a queen for my own use for next season, if I knew where she could be found. Her offspring shows up yet wherever it is to be found thru the home yard, but this queen was not made proper use of on account of lack of time, and I am now very sorry for that.

I often think it would pay me to do as the hog-breeders do—go right to the bee-yard where the owner is producing honey, during the main flow, and make a selection, buy a queen from an extra-hustling colony, and take her right home with me.

Jackson Co., Iowa.

The Premiums offered on page 237 are well worth working for. Look at them.

CONVENTION PROCEEDINGS

Report of the Wisconsin State Convention.

BY N. E. FRANCE.

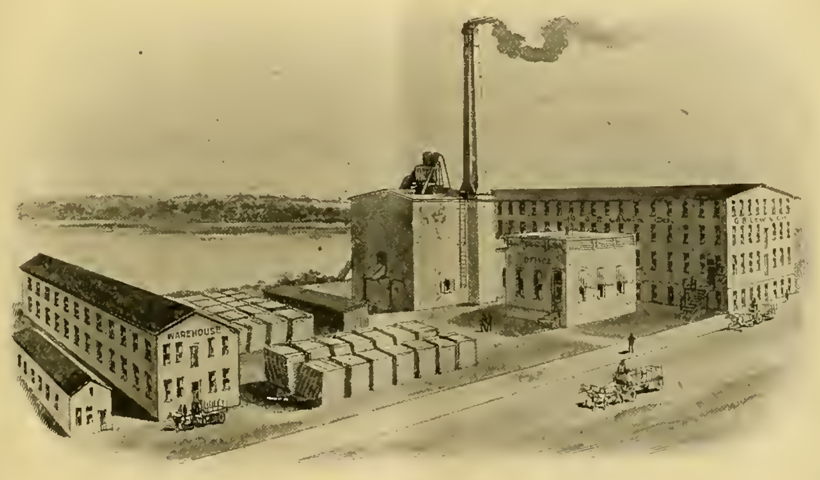
The 16th annual meeting of the Wisconsin Bee-Keepers' Association was called to order Feb. 7, 1900, at 10 a.m., with Pres. F. Wilcox in the chair. Prayer was offered by Rev. H. A. Winters.

Pres. Wilcox delivered a short opening address, after which the secretary read the minutes of the last meeting, which were approved.

CAUSE OF WINTER LOSSES OF BEES.

Next was a paper by Herbert Clute, of Clark Co., on the causes of loss of colonies of bees last winter. A long discussion followed on wintering, several thinking the long-continued cold weather the main cause. Proper ventilation and uniform temperature were advocated by all. Several have underground inlet air-tubes as well as upward ventilators. If stone walls get damp and frosty it is an indication of lack of heat and ventilation. Good feed is as necessary as the cellar. This may be either sealed combs of choice white honey or thick sugar syrup.

Several spoke of heavy losses where honey-dew or sorghum, from sorghum mills, was plenty in the fall. Some members complained of their bees in the spring being bothered with diarrhea, often the result of shortage of good feed—causing the bees to consume an unusual amount of bee-bread.


Bee-Supply Factory of G. B. Lewis Co., Watertown, Wis.

In making sugar syrup, all use the best white sugar, about 2 pounds to one of water, and if not stirred much in making it is not liable to granulate.

The secretary then read a second paper by Mr. Clute, on "Bee-Keeping in Clark County."

The convention then adjourned to 1:30 p.m., when Pres. Wilcox called the meeting to order, and George W. York gave each one present a copy of the song written by Dr. Miller and Mr. Secor, entitled, "The Hum of the Bees in the Apple-Tree Bloom." After Mr. York sang the first stanza, all joined, and a choir of 35 bee-keepers' voices was heard.

The secretary then read an essay on bee-keeping, by Mrs. Jennie Towle, of Clark Co. This was followed by Miss Ada Pickard, of Richland Co., who was listened to with great interest.

"Dots by the Wayside," a paper by Jacob Huffman, had many valuable suggestions. A lengthy discussion followed on pasturage for bees, advising the sowing of more alsike clover, and also sweet clover, as the latter might better be growing where worthless weeds are found. Extracted sweet clover honey being of a white-greenish shade, and fair quality, it finds ready sale. Some had trouble to get sweet clover seed to grow, but if fresh-gathered seed was sown in early fall, in gravelly or clay soil, a good catch was generally secured. Mr. York spoke of its great importance to Illinois bee-keepers.

Mr. E. D. Ochsner then read a paper on "The Section-Box for Wisconsin Bee-Keepers," advocating the standard 4¼x4¼. Messrs. Hatch and York, in the discussion, spoke of others getting more for their tall, fence-separatored honey. The majority present favored the use of the standard 4¼ section until their markets demanded a change.

The State foul brood inspector then read his annual report to the Governor, and in the remarks following, askt the association to use its influence to have the present law revised—put back as the legislature past it in 1897, adding a section to appraise and pay for property where necessary to burn. A motion was carried empowering the officers to draft such a bill, and take such steps as may be necessary to secure its passage.

A question was askt by Mrs. Towle as to whether the State association protected its members the same as the National. After remarks in reply to the above by Pres. Wilcox, Messrs. York, France, and others, Mr. York informed the association of an offer, that if all the paid-up members of this association would join the National Bee-Keepers' Association in a body, there was a section in the constitution allowing such to join at 50 cents each. This led to a recess, and a lively paying of such dues. Wisconsin has been in the lead in many industries, and at the close of the paying of dues for the National Association, a feeling of National strength and patriotism was shown in every face.

Geo. McCartney was present with his valuable combined foundation fastener and section press.

The evening session was called to order by Pres. Wilcox. The entire meeting was devoted to questions and answers, this being the place where some questions of great value to the one asking—in many instances of as much value as the cost of attending the gathering.

THE QUESTION-BOX AND ANSWERS.

QUES.—How to prepare new graded ground for an apiary. ANS.—Seed to white clover.

QUES.—How to manage a 10-frame hive for comb honey—which is the best hive and frame? ANS.—The majority favored the 8-frame Langstroth hive for comb honey, and the 10-frame for extracting.

QUES.—How far do bees fly and gather honey profitably? ANS.—In general, 1 to 3 miles, but instances were spoken of by W. Z. Hutchinson, where feed being scarce, they were known to work freely six to seven miles.

QUES.—When to sow alsike clover seed. ANS.—In the spring in soil well prepared, and if not allowed to be smothered by other crops, it will bloom well the second season.

QUES.—Can ladies keep bees with profit? ANS.—Yes, if proper attention and study are given to it.

QUES.—How to get strong colonies by the harvest time. ANS.—By good protection and feeding.

QUES.—How to keep the top of the hives warm on cold nights and days in the spring. ANS.—Put burlap or other cloth covering under the cover, and then tight-fitting cover. At certain times protect the whole hive.

QUES.—When and how to ripen extracted honey. ANS.—All advised keeping it on the hives until ripened by the bees. A majority of the members use queen-excluding honey-boards.

QUES.—Is a bee-keeper responsible for damages done by his bees? ANS.—Yes; but if bees are near neighbors or a street, and sting people or stock, they should be moved, or a high fence or hedge erected to force the bees high above such street; and where bees are kept near neighbors so as to bother them, and stain their clothes on the wash-line, keep good neighbors by an occasional gift of honey from these bees. The bee-keeper also should belong to the National Bee-Keepers' Association—a cheap and valuable insurance in times when envious neighbors complain.

QUES.—Do old extracting-combs color the honey? ANS.—No, not even combs that have been in use 20 years.

QUES.—Do hives need ventilation in hot weather? ANS.—Yes, by entrances left open the full length, and the cover raised a little at one end.

QUES.—Do bees do as well in the shade as in the sunshine? ANS.—The majority present prefer a light shade in the middle of the day.

QUES.—Will bees work in very hot weather? ANS.—Yes, if the flowers are secreting honey.

QUES.—How many sheets of comb foundation to give to a colony at once. ANS.—Two are enough.

QUES.—If a colony produces 50 pounds of comb honey per year, how much extracted should be secured from another of the same strength? ANS.—75 to 85 pounds.

Too many use an extractor who do not leave honey enough for the bees to winter on.

SECOND DAY—MORNING SESSION.

The election of officers resulted as follows: President, N. E. France; vice-president, Jacob Huffman; secretary, Miss Ada Pickard, Richland Center; treasurer, H. Lathrop.

A committee to revise the Wisconsin State fair premium list was appointed as follows: N. E. France, F. Wilcox, and E. D. Ochsner.

The judge of the apiarian department of the State fair was named—N. E. France.

On motion, W. Z. Hutchinson was made an honorary member of the association.

An essay, entitled, "Honey—From the Hive to the Table," by George W. York, was valuable and instructive. It was followed by a long discussion on packages for extracted honey. As many Wisconsin extracted-honey producers have markets that use large quantities of honey, they use barrels; but the soakage and other troubles common to barrels found the 60-pound cans equally good.

A. G. Wilson then read a paper on "Barrels for Honey," and F. L. Murray read one on local associations.

The question-box being full, it was again opened with interest until noon.

At the afternoon session A. D. Barnes, of Waupaca Co., having a large nursery and small fruit farm, offered, free of charge for a term of years, a site for an apiary on his farm, so that his fruit would have the assistance of the bees in fertilizing the bloom.

Aug. Weiss had a large display of hives, smokers, and comb foundation on exhibition. There was also a fine display of the following bakings sweetened with honey, presented by the American Biscuit Company: Honey-jumbles, iced honey-jumbles, iced honey-cocoa jumbles, honey-fingers, iced honey-fingers, honey-cocoa fingers iced, honey-gems, iced honey-gems, iced honey-cocoa gems.

"*Resolved*, That contraction is better than expansion for spring management of bees," was discust, H. Lathrop taking the affirmative, and Jacob Huffman the negative. Both debaters being old, experienced bee-keepers, and the large room full of practical bee-keepers to act as judges, all were well pleased with the debate. At the close the secretary presented the debaters with the above choice bakings, which they divided with the members.

Several cities offered special invitations for the next meeting of the association. On motion, the executive committee were authorized to say when and where the next meeting shall be held.

The convention then adjourned, *sine die*.

N. E. FRANCE, *Sec.*

[The various papers referred to in the above report will appear later.—EDITOR.]

Celluloid Bee-Button.—We have had made to order a very neat ⅞-inch celluloid button to pin on the coat-lapel. Upon it is the picture of a golden queen-bee, and around the edge these words: "Our toil doth sweeten others." It will especially please the boys and girls, and is a neat thing for members of bee-conventions to wear. It is a nice badge or emblem of the sweet industry in which bee-keepers are engaged. Prices, postpaid: One button, 8 cents; two or more, 5 cents each.

The American Fruit and Vegetable Journal is just what its name indicates. Tells all about growing fruits and vegetables. It is a fine monthly, at 50 cents a year. We can mail you a free sample copy of it, if you ask for it. We club it with the American Bee Journal—both papers one year for $1.10.

Dr
C.C.
MILLER

QUESTIONS AND ANSWERS.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Bees that Swarm the Least, Etc.

1. Which race of bees are supposed or known to swarm the least?

2. What method is generally used by learned bee-keepers to prevent swarming?

3. Are there any better bees than the Italians for the production of comb honey?

4. Are the Adel bees superior to any others?

SUBSCRIBER.

ANSWERS.—1. There probably is not a very great difference, only Carniolans are supposed to swarm more than others. But it sometimes happens that a particular strain swarms less than others of the same race. The Dadants have bees so good in that respect that not more than three to five colonies in a hundred swarm, but they attribute it to their large hives. It is claimed that the Adels are little given to swarming.

2. The answer to that question is what they are all after, but a satisfactory one has not been given. Large hives, abundant ventilation, shade, etc., are among the things that help. The matter is easier when working for extracted honey, and some report entire success by putting all the brood in an upper story over an excluder at the beginning of the honey harvest, leaving the queen below with foundation or empty combs.

3. Very doubtful.

4. They are undoubtedly superior to some others, but are not generally supposed to be superior to all others.

Sweet Clover.

1. Would it pay me to sow sweet clover seed by the side of the road, where there is a dried-up spring? The ground is never dry here, and is about 10 rods from my bees. The ground is used for nothing, and is a heavy sod.

2. Will sweet clover grow if sown on the sod?

MICHIGAN.

ANSWERS.—1. It will probably pay big, as the expense for seed is trifling, and the land is of no value otherwise.

2. Yes, if you simply scatter the seed on the ground you will find a good many of them grow, and the second year the seed will fall and seed more. It will be well for you to sow two years in succession, for sweet clover is a biennial, and if you sow only one year you will have pasturage for your bees only alternate years for the first few years. The seed will catch much better if the ground after sowing is trodden down by cattle or horses, especially when it is a little wet. Perhaps there is enough travel along the sides of the road to tread in the seed.

Lack of Pollen May be the Cause of No Brood.

I had a weak colony of bees that had been queenless quite awhile, and I bought a queen for them. My bees are all hybrids, and the queen I bought was an Italian, and seemed to be a hustler last fall. It was a small colony and had few bees. I fed them granulated sugar syrup for winter stores, and they had their combs full of stores, and had the combs the bees covered, full of brood. I think it took nearly all the pollen they got to feed the young bees. They reared young bees all the while I was feeding, in the forepart of November. They came thru very nicely this winter, stronger than any of the rest of my bees, according to their size in the fall. When I lookt at them one warm day last week there was no sign of brood or eggs, but the queen was alive and all right apparently. Now what I want to ask, Is the cause of no brood the lack of pollen? If so, what is your opinion in regard to a substitute, that is, what is best to use? My other 10 colonies came thru in fair condition, with plenty of honey. MICHIGAN.

ANSWER.—The absence of pollen is sufficient to account for the absence of brood. Very likely by this time the bees have gathered enough pollen to start brood-rearing. If not, you may be able to give frames of pollen from other hives; or, give them a feed of oats and corn ground together. Put it in a shallow box, say 6 inches deep. Put a stone under one end of the box so as to tip it up facing the sun; when the bees have dug it down level, turn the box end for end. When the fine portion is all taken out by the bees, the rest can be fed to four-legged stock. If more convenient, ground corn, bran, or Graham flour may be used. Set the box in the open air in a sunny place. A few drops of honey may be used to start the bees to work. If they get natural pollen, you can't get them to take the substitute.

Queens with Clipt Wings—Swarming.

I clipt my queens' wings early last spring, so as to be sure to get the first swarms. As I am not always at home I thought this to be a sure plan. I have since been told that queens did not do so well with clipt wings. What do you think about it? PHOTOGRAPHER.

ANSWER.—So long as a queen stays in a hive, it doesn't make a particle of difference whether she is clipt or not. The difference comes when she attempts to go with a swarm. But clipping a queen is far from making sure that bees will not leave if they have no attention. If the queen is clipt the swarm will return, but in 8 or 10 days a young queen will come out with the swarm, and will be more likely to take French leave than an *old* queen with wings.

Those Divisible Brood-Chamber Box-Hives.

I was very much interested in Mr. Davenport's article on page 179, as I have just made 9 hives for an experiment that almost coincide with his. My top-bars are 1¼ inches wide. They make lath here 1½ inches, and that would leave a bee-space and give 1½ inches between centers, if I figure correctly. I had intended to put in inch starters, but I don't see why full width could not be used with little danger, the same as in frames not wired. Do you think drone-comb would be apt to be a factor if starters were used? I was much pleased to note that the bees did not fasten the combs to the box below when the hives were tiered, for that was what seemed natural to me to expect. PENN.

ANSWER.—Mr. Davenport no doubt gets lath the same width as you, but of course planes them down to the right width.

It is quite possible that foundation full depth might be used, especially if the foundation is heavy or of such character as to stretch little. Drone-comb will undoubtedly be a factor if starters only are used. Yet you can accomplish a good deal by management. A swarm newly hived builds mostly worker-comb for the first 10 days or more. Give one of these shallow stories to a swarm, and it would be nearly or quite filled with comb before drone-comb would be commenced. Then a second story could be given with combs fully built.

Renewing Brood-Combs, Cleaning Supers, Etc.

1. How often do you change the frames in the brood-chamber, or do the bees, while strong, keep it clean? We have a few bees, and I can not find anything about this question in my paper or books.

2. Please tell a good way to clean bee-glue from supers. I am using salsoda and hot water. With a knife I scrape them all clean. I am cleaning 6 old hives and 9 supers. It takes time, but they look nice afterward. OREGON.

ANSWERS.—1. In this country bee-keepers do not renew the brood-combs, no matter how old. Some of mine are 30 years old and older, and for aught I know are good for another 30 years. The bees do all that is necessary toward keeping them clean.

2. For cleaning bee-glue from anything of tin, such as T tins, probably nothing is better than to put them in a hot solution of concentrated lye. I have tried the same thing on wood, but it is not so satisfactory. I simply use a common hatchet, scraping back and forth with a sidewise motion. No washing of any kind is needed. You will probably find that you can scrape a super in much less time with a hatchet than with a knife.

A Queen Question.

A queen was killed and brought out of the hive March 25 by the bees. The hive was examined the 26th and I found two queen-cells about half finisht, with larvæ about 3 or 4 days old. There is brood in all stages in the hive from 2 to 3 days old to hatching out. What I want to know is, will this colony come out all right this time of the year with the young queen it is rearing, or should the colony have an old queen? There are no eggs in the hive. TENNESSEE.

ANSWER.—The main question is whether the young queen will be fertilized. As far south as Tennessee the chances ought to be fair, especially if the season be early. As a matter of precaution it may be well to give the colony young brood 2 or 3 weeks after the date of the death of the queen.

Basswood—Introducing New Blood—Anti-Swarming Management.

1. I have in my pasture about 20 acres of brushland unfit for cultivation, which I want to clear and leave the basswood for the bees. The trees stand in bunches from 5 to 15 in a bunch, and are about 30 feet high. How many would you leave in a bunch? I intend to leave nothing but the basswood.

2. How often would you advise introducing new blood in an apiary when your neighbor bee-keepers neglect the same?

3. Would there be any swarming from an 8-frame, 2-story hive run for extracted honey with a queen-excluder and 3 stories added at the beginning of the honey-flow, and a fourth story added if needed?

I am thinking of starting an out-yard and running it in that way, and can be there but once a week. WIS.

ANSWERS.—1. It depends on how far apart the trees are. Probably 30 feet apart will be a good distance for trees of that height.

2. If your neighbors have bees in all directions about you, there is less need to introduce fresh blood to avoid in-and-in breeding than if your apiary contained the only bees within 10 miles. But if you are trying to keep Italian blood in your apiary, and black bees are all about you, a fresh Italian queen every 2 or 3 years would be a good thing.

3. You would probably have very little or no swarming *if* a large entrance is open to each story. You might make the matter still more sure by putting all the brood above the excluder at the beginning of the honey-flow, leaving the queen below. This is on the supposition that you work for extracted honey.

Clipping Queens and Their Swarms.

I have 15 colonies of bees, and I wish to run for comb honey especially. I have 12 hives, just purchast, to receive the swarms the coming season.

1. Would you advise me to clip all of my queens' wings? If so, during what *part* of *which* month?

2. Does this clipt-wing queen then issue with the first swarm next season?

I am not physically able to climb trees, etc., after swarms. My hives are roomy and very well shaded, and bees mostly Italians. VIRGINIA.

ANSWERS.—1. Most assuredly, I think it advisable for you to have all laying queens clipt. Then when a swarm issues, instead of having to get it off a tree, here's what you have to do: Watch for, find, and cage the queen. Set the hive to one side and put in its place the hive for the reception of the swarm, putting at or in the entrance of this hive the caged queen. When the swarm returns and is entering the hive, or after it has entered, let the queen run into the hive. Clip queens during any part of any month when it is warm enough for bees to fly freely. The main point with you is to get them clipt before swarming-time.

2. The queens that you will clip, that is, the ones that are now in the hives, are the ones that will issue with swarms this summer.

AMERICAN BEE JOURNAL.
ESTABLISHT IN 1861 OLDEST BEE-PAPER IN AMERICA
DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS

PUBLISHT WEEKLY BY
GEORGE W. YORK & COMPANY,
118 Michigan Street, Chicago, Ill.

[Entered at the Post-Office at Chicago as Second-Class Mail-Matter.]

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IMPORTANT NOTICES:

The Subscription Price of this journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "Dec00" on your label shows that it is paid to the end of December, 1900.

Subscription Receipts.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows you that the money has been received and duly credited.

Advertising Rates will be given upon application.

VOL. 40. APRIL 12, 1900. NO. 15.

EDITORIAL COMMENTS

NOTE—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

What is the Character of the Cyprians?—Editor Hill speaks of an attempt to revive interest in Cyprian bees, his advice being, "Let Cyprians alone." He says:

> "We are aware that the Cyprian is regarded with some favor by as high an authority as Frank Benton; but even he assents to the fact that they use their stings with great energy when thoroly aroused. It is our experience that they will do so at all times, and that they appear to be thoroly aroused whether molested or not. The Cyprian will go farther out of its way in search of some poor, inoffensive creature to sting than any bee we know of.
>
> "To those who are fortunately free from Cyprian venom in their apiaries, we would say: Have a care how you experiment with a race whose maliciousness and irritability has called down upon it the condemnation of nearly every one with whom it has come in contact."

On the other hand, M. G. Dervishian gives a clean bill of health for their tempers, in the British Bee Journal, saying they are more gentle than Italians, he himself handling them without veil or smoke. He says Mr. Cowan is in error when he says some Cyprians are gentle and others very vicious, and accounts for it by saying that Syrians are vicious and vindictive, and that many Syrians were sold in America and England for Cyprians. "Indeed, Syrians were often inadvertently kept in the same apiary along with Cyprians, and were often supplied instead of the latter kind to customers. Unfortunately the bees of these two races are so nearly alike that in outward appearances no one could possibly detect any difference between them."

Mr. Dervishian's residence in the island of Cyprus gives him an opportunity of familiarity with the subject, but if he makes a business of selling Cyprian queens he may not be entirely disinterested.

Ripening Honey.—G. R. Harrison says in the Australian Bee-Bulletin:

> "Mr. Doolittle points out, and has been pointing it out for long enough, and the average bee-keeper tells you he knows it if you mention it—that the honey in the combs is as ripe the morning after it is gathered as it ever will be, and very often much riper."

Yet on page 194 of this journal Mr. Doolittle advises, if you *must* ripen honey out of the hive, to keep it in a temperature of 90 to 100 degrees for a month or six weeks. Why should this be necessary, if each morning the honey is as ripe as it ever will be? Perhaps Mr. Doolittle will throw some light on the subject.

A New Hive-Cover.—Not that one has been made, but one is askt for in the Progressive Bee-Keeper by Dr. Miller. The "Higginsville" is a good cover, and it was a great improvement upon it to have the ridge-piece channeled, and the shoulders of the two side-pieces projecting up into it, so that water could only enter by running up hill; but there is still need of a cover that can not twist so as not to fit down close, and to have an air-space in it so as to make it warmer for winter and cooler for summer. He thinks this might be accomplisht in this way:

> "Take a Higginsville, perhaps a little lighter than usual, and have under it another surface ⅜ thick or less, with a ⅜ air-space between, having the grain of the under surface run crosswise, the cover fitting entirely flat upon the hive with no cleat at the end projecting downward."

A $1,000 Bee (Model).—Mr. Geo. H. Stipp, of California, sent us some time ago a clipping from the San Francisco Examiner, showing pictures of a mammoth honey-bee model that can be taken apart and put together again. The description reads as follows:

> A great wooden model or manikin of a honey-bee, one million times larger than the bee itself, is one of the latest pieces of scientific paraphernalia which now furnishes the new building of the Agricultural Department of the University of California. This immense construction is the only one of the kind in the United States, and was made especially for the University, in Paris, France. Its cost was $1,000.
>
> It is four feet four inches long, the wings are two feet ten inches long, the head is twelve inches broad, the thorax one foot ten inches long, the abdomen is two feet five inches long, and one foot five inches across; the third, or longest hind leg, is two feet five inches long, and the tentacles are ten inches long.
>
> The dummy insect is complete in every respect; every gland, orifice or scale upon it is presented. It can be taken apart, and so breaks up into 16 pieces. The legs, the wings and head come off, but the most interesting part of it is the internal arrangements, revealed by removing the caps or tops of the several departments of the bee. The top of the head comes off, revealing the brain and the air-cushions surrounding it. Then the top of the thorax is removed, and you may take out one of the strong, red, deflector muscles, looking like the pile of fibers which they really are. These are the muscles which lift the wings of the bee.
>
> Farther back the top of the abdomen comes off, exposing the stomach, intestines and entire digestive apparatus, which also comes out as a separate part. Every vein, duct and sac is detailed in the woodwork, each part being painted the color that it bears in nature.
>
> Prof. Woodworth, who lectures on the honey-bee, states that he finds the model more useful for laboratory work than for any service. When any point comes up about the anatomy of an insect, reference is had to the manikin, and illustration is at once made. This may occur a dozen times

a day. The points arising may not always concern honey-bees, but as all insects are much alike, any point could be explained by referring to the bee, which is the most fully developt and perfect of insects. The superiority of the manikin over printed plates or maps is described by Prof. Woodworth, who remarkt that "it makes the difference between seeing a man and seeing his photograph."

The International Apicultural Congress at Paris.—This office is in receipt of an invitation to attend the Congress to be held Sept. 10, 11, 12, 1900. The membership fee is $2.00. M. de Heredia is president of the committee of organization, and M. Caillas secretary.

The program looks strange to American eyes, being divided into seven sections, with a different president and secretary for each section, as follows:

FIRST SECTION.—APICULTURE PROPER.

Advantages of bee-culture to agriculture.

Fecundation of flowers by the bees.

Quest of proper means to favor the sale and disposition of direct and indirect products of the hive.

Influence of soil, climate, and altitude upon the production of nectar.

Means proper to fill vacancies in the supply of nectar in a given country.

Culture of bees for selection and sale of swarms.

Culture of bees for the sale of their products.

Investigations upon swarming.

Advantages and disadvantages of feeding bees.

Means necessary to make the manufacture of hydromel a rural industry.

Study of ferments.

SECOND SECTION.—ANATOMY AND PHYSIOLOGY OF THE BEE.

Secretion of wax.

Influence of the length of bees' tongues in gathering honey.

Parthenogenesis.

Role of drones in the hive.

THIRD SECTION.—APICULTURAL TECHNOLOGY.

Hive and frames from an international point of view.

Advantages and disadvantages of the large frame—of the small frame.

Comparative study of different hives.

Which is better, the warm or cold system of frames?

Remarks upon wintering; ventilation.

FOURTH SECTION.—APICULTURAL INSTRUCTION.

Instruction in bee-keeping by professors of agriculture and teachers.

Means to be employed to popularize bee-keeping, thereby bettering the lot of the workman and small farmer.

Apicultural publications.

FIFTH SECTION.—DISEASES OF BEES; PARASITES.

Foul brood—its ravages, diagnosis, prevention, cure.

Bee-moth—prevention, destruction.

May sickness—does it exist everywhere? diagnosis, causes, treatment.

Diarrhea—prevention, cure.

Parasites of bees—description, harm they do, means for their destruction.

SIXTH SECTION.—APICULTURAL JURISPRUDENCE.

Legislation regulating the location of apiaries in different countries.

Legislation regarding adulteration of honey, wax, and their derivatives.

SEVENTH SECTION.—APICULTURAL STATISTICS.

State of apiculture in different countries (hives, honey, wax, derived products).

Association of the apicultural press and members of the conference, in view of the general and rapid dissemination of discoveries and documents apicultural.

Dr. Miller's Honey-Queens are offered as premiums, on another page, for sending us new subscribers to the American Bee Journal. The offer is limited to our present regular subscribers, and the queens are to be mailed in rotation, beginning about June 1st, so first come first served. Look up a new subscriber, send in his name with $1.00, and we will enter your order for a Dr. Miller Honey-Queen.

The Weekly Budget

SUCCESS is the name of one of the very best monthly periodicals devoted to young people who desire to make an honored name and fame for themselves in this life. Its moral tone is of the highest, too. We wish it might be in the home of every one of our readers. Its subscription price is $1.00 a year (easily worth $10). We will club it with the American Bee Journal—both papers for one year for $1.75.

* * * * *

THE 1899 EDITION of the "A B C of Bee-Culture" is about exhausted, we learn, and any one expecting to order will do well to wait for the 1900 edition, which is under way. It is being thoroly revised again this year, and a great deal of pains will be taken with the whole book. It is likely to be Sept. 1st, or later, before the new book will be ready, but orders may be entered at any time for the new edition, to be sent as soon as ready. We still have a few of the 1899 edition left, which we will use in filling orders, unless we are requested to hold the order until next fall for the 1900 edition.

* * * * *

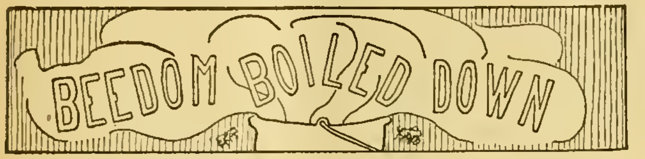
MR. S. A. NIVER, of Tompkins Co., N. Y., recently addrest the high school at Olean, N. Y., on "Bees, their Culture, Habits and Peculiarities." He talkt for about 45 minutes, and of course amazed his hearers with the mysteries of the hive. Later on he had to repeat the talk before a gathering of some 60 teachers. It wouldn't be a bad idea if the National Bee-Keepers' Association would arrange to have some leading bee-keeper and interesting speaker spend some time each year visiting the schools in cities and lecturing on bees and bee-keeping. It would be helpful to the scholars, and might help to extend the demand for honey. Rev. E. T. Abbott, of Missouri, would be a good man to start out on such a mission. He enjoys talking, and we have never yet failed to see him interest his audience—provided he didn't "preach" too long.

* * * * *

SOMNAMBULIST, the "delightful dreamer" of the Progressive Bee-Keeper, whose dreams are nowadays based upon the good things to be found in other bee-periodicals does considerable browsing in the pages of the American Bee Journal, introducing his "finds" by words so kindly, and withal so brightly, spoken, that even at the risk of endangering the editor's hatband, they must find a place here, and are as follows:

"Another bee-keeping sheet bearing upon its title-page the sweepingly comprehensive inscription, American Bee Journal, may be confidently expected to call once a week, and because of this, along with many other reasons, it has honestly earned the now quite familiar cognomen, the 'Old Reliable.'

"I sometimes wonder if in these days of wagging of tongues on the subjects of imperialism and expansion, just according to which of the two great political parties the speaker belongs, ye editor's heart swells with befitting pride as he finds his rightful territory extending into what was formerly foreign islands of the sea. How's this, Bro. Y.? Loose apparel getting tight-fitting? Hatband still sound? At any rate I am convinced, inasmuch as the spirit of reaching out has so far developt as to become dominant, Editor York will not be left out in the cold, but will be found right in the crowd, reaching out for all he can catch, with which to serve the readers of the American Bee Journal. I came near putting it A. B. J., but didn't we catch it for thus abbreviating only a short time ago? Presume he did not want his paper called a bee-jay, as that kind of a bird is one of the worst known enemies to bees. They will dart down and pick a bee from the alighting-board as deftly and surely as a sharp-shooter does his man. Can one condemn them? They know a toothsome or sweet morsel on sight, and are governed by the laws of self-preservation, just as ye editor knows relishable and appreciable articles, and hustles around to secure them with which to maintain life in his journal."



Age at Fecundation.—In Bienen-Vater are given dates for 30 queens. One was fertilized at 4 days after leaving the cell; 2 at 4½ days; 4 at 5; 10 at 6; 8 at 7; 3 at 8; and 2 at 9.

Parsley Angers Bees is the report in L'Apiculteur. When any of the family pluckt parsley for culinary purposes, very often a bee or two resented it, and when a bed had gone to seed and was pulled up, the bees became so furious that there was fear of trouble with the neighbors.

Honey and Horehound Cough-Drops.—Put a handful of horehound into a saucepan, cover it with water, and boil until the liquor is strong. Then strain and add honey to it, boil until the water has evaporated, test it like other sweets, and when sufficiently boiled pour into shallow pans to cool. Then cut up into pieces.—British Bee Journal.

To Kill Worms in Combs, the following is given in the American Bee-Keeper:

"Place an empty brood-chamber on top of a stack of combs, and therein a dish with a little bisulphide of carbon, then cover up tight; the liquid will transform into gas and kill everything living within the stack of hives."

To Get Much Honey and No Increase, the following is recommended in Maehrische Biene: Give combs of ripe brood to the strongest colony or colonies; when the young bees hatch, take away all brood, leaving the colony in the condition of a swarm. The brood removed will in turn strengthen other colonies, and the process be continued.

Uniting a Swarm with a Nucleus.—Speaking of the difference of opinion between Mr. Doolittle and Dr. Miller about uniting a swarm with a nucleus, Editor Pender, of the Australian Bee-Bulletin, agrees with Mr. Doolittle, and indeed goes still farther by saying: "In all cases where I have tried uniting a swarm with anything but a swarm it has been a failure."

Traveling Bees Need a Queen or Brood, according to Editor Pender. He says:

"When shipt without a queen, unless the distance is short, say under 48 hours, we always send some brood with them. Bees do not travel well any distance unless they have a queen or some unsealed brood, and we would not care to risk it over 48 hours."

Honey-Soap.—Take one pound of best soap, cut it up into thin slices, and put it into a double saucepan and melt. Add two ounces of honey and two ounces of palm-oil, stir it well and boil ten minutes. Then pour into molds. A few drops of oil of cinnamon or oil of cloves may be added to perfume it. A good soap can be made by omitting the oil and using more honey.—British Bee Journal.

Effect of Locality on Bee-Moths.—Coloradoans claim they have no bee-moths. Mentioning this, Editor Hill, of the American Bee-Keeper, says:

"By way of contrast, we might say in this connection that in South Florida combs that are left in the extracting-room over night are very apt to show webs in the morning, and if left would be completely ruined within a week."

Prevention of Swarming.—C. Davenport says in the Bee-Keepers' Review that he thinks more extracted honey, as well as more comb, can be got in the white honey harvest if the queen be confined to one story, but it is likely to induce swarming. If the queen be allowed the free range of three or four stories, the brood will be scattered, making more frames to be handled to extract a given amount of honey, and in the fall there is trouble reducing all to one story; but there is the saving clause that he has never had a colony try to swarm when the queen had the free range of three or four stories. He thinks, however, that this may be partly attributable to the fact that this locality is slightly overstockt.

Thoro Ripening of Honey.—Those Britishers know a thing or two about getting honey in shape to take prizes. Says a writer in the Bee-Keepers' Record:

"You extract your honey, you strain it. You fill a bottle and are delighted with its color. You taste it; it is delicious! If you are inexperienced, you think you have nothing else to do but send it to the show and secure a prize. But no, honey for prize-winning is not so easily produced, or prepared for the show-bench in such a rough-and-ready manner. No matter how well 'capt-over' the combs may be, there are a few necessary tedious operations to perform before we may say our honey is 'in condition.' Even if, as I said, your honey is thoroly sealed, a few days standing in a warm place—by the kitchen grate for instance—in the 'ripener' has a wonderful effect, enhancing not only its flavor, but principally its consistency. And where partly unsealed combs have been extracted, it is doubly important that this ripening process have due attention. In such cases a week at least ought to be given to ripening."

Length of Tongue of Apis Dorsata.—Editor Root, of Gleanings in Bee-Culture, sent seven specimens of Apis dorsata to Prof. B. F. Koons to have their tongues measured. The length of tongue, given in thousandths of an inch, varied from .170 to .240, the average being .195. He then measured the tongues of 12 Italian bees, which varied from .199 to .232, the average being .220. Just as that reads, it doesn't say much for dorsata. Its opponents, however, can take a little comfort from these measurements when it is known that the dorsata were specimens in alcohol, and the Italians were fresh. Prof. Koons says he does not consider the measurements reliable, as alcohol is a *drier*, and might materially affect the length. Indeed, the testimony is on the side of the big bees, for one of them showed a longer tongue, even after being in alcohol, than any tongue of the Italians, and it is quite possible all were much longer before being put in alcohol.

White Cappings for Best Price.—G. M. Doolittle says in the Progressive Bee-Keeper:

"What I believe is, that after the sections are *filled* with a nice *white* comb of *honey*, the sections are *rarely* lookt at, either by the *producer* or the *consumer*, but it is the *beautiful comb* honey that is lookt at *ever* afterward, and it is for this reason that Doolittle has been advocating taking off the honey while the *combs are snow white*, all these years, rather than "white sections" as Mr. Aikin imputes to me. I don't guess at the matter; I *know* that snow-white combs will sell both in the New York and Boston market at from 2 to 3 cents per pound above those left on the hives until they are colored, each having the same quality of honey, and an experience as to the selling price of the two during the past 15 years, is the *reason* of that 'know.'"

Do Bees Made Queenless Prefer Too-Old Larvæ for Queen-Rearing? is a question taking up some space in the Bee-Keepers' Review. Hon. R. L. Taylor thinks the experiment made by Dr. Miller is not satisfactory, altho admitting the claim of the latter that, "there is no positive proof that during the first five days any larva more than three days old was chosen, and there is positive proof that 17 larvæ under three days old were chosen." If this were the only experiment that could be made, it might be worth while to keep up the discussion, but would it not be the part of wisdom to let it go and institute fresh experiments that would be satisfactory to both? The question is one of some importance, and ought to be settled.

Each Should Improve His Stock.—Here are some words of wisdom from W. H. Pridgen in the American Bee-Keeper, that will bear a second reading:

"Permanent improvements come slowly, being the results of persistent efforts and the ability to make wise selections, which each bee-keeper should be able to do, as well as being sufficiently skilled in queen-rearing to perpetuate the desirable qualities of faithful old mothers ready to pass off the stage of action."

"Shall We Adopt the Tall Sections?" is askt by J. H. Martin in the Bee-Keepers' Review, and in answering the question he thinks it not well to be to too much expense in changing. He makes one point that is worth considering. Accounts are given that tall sections bring better prices by *comparison* with square ones. Now suppose all change to tall. Will the price of honey then be any greater than if all had remained square?

Root's Column

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WHO?

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From the Bee-Keepers' Review, January, 1900.

"The extractor we use is the Cowan reversible."
Miss Ada L. Pickard, Richland Centre, Wis.

Miss Pickard produced 16,000 pounds in 1898, so she should be a good judge.

From the March Bee-Keepers' Review.

"I expect to purchase another machine; for I want the extractor always at hand ready for use. Speaking of extractors, I would not trade my two-frame Cowan machine, as made by the A. I. Root Co., for any four-frame machine I ever saw. They work so easily, and I think one person can extract with them as rapidly as another can uncap the combs."
Harry Lathrop, Browntown, Wis.

If Mr. Lathrop had tried one of our 1900 pattern, four or six frame

BALL BEARING

machines he, perhaps, would think differently. However, we recommend the two-frame Cowan Extractor unless one has a very large amount to extract. In that case do not fail to investigate our larger sizes.

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MEDINA, OHIO.

GENERAL ITEMS

Never Wintered Better.

Last year winter kept up till June 6, in fact we had no spring weather at all, but we now have had four weeks of continuous fine weather, and some of our people are beginning to get alarmed for fear we may have a drouth; but we can stand it several weeks longer, and then we can fall back on irrigation; but the spring rains are very necessary in some parts of the State. The bees never wintered better than this year, but the poisonous smelter-smoke has killed them in some parts of Salt Lake County by the wholesale. It is a very serious matter, and to fight it would be like running up against a stone wall, because we would have to fight millionaires.

E. S. LOVESY.

Salt Lake Co., Utah, March 29.

Bees Wintering Well.

I have 40 colonies of bees in my house-cellar, all doing well. I am a farmer, and if I live until next harvest, and do not forget, I will send Mr. Dadant some wheat and cheat, or chess, as we call it here, to show that cheat grows from wheat, both on the same root.

L. STAHOSKI.

Trempealeau Co., Wis., March 20.

The New Bee-Disease.

I would like to relate some of my experience and cure for the above trouble, for the past 15 years.

Some 12 years ago I was much annoyed with old bees coming out in midsummer and crawling and hopping about, shiny and unable to fly; also some dead brood much like we had last summer. I fed some beta napthol, and for many years we never had a single colony affected.

I often thought the bees lookt much healthier for 2 years after. However, last year it was 10 times worse than ever. (We had no old shiny bees dying off, remember, and no dead brood on my first round when clipping queens.) But after the first hatch of brood it seemed to appear almost at once in perhaps 50 hives, some with only 5 or 6 dead larvæ. Starving is no good with me. I tried it twice on one colony and failed. I never put in such a summer in my 20 years with bees for a business—culling out brood with a pen-knife and melting combs. There is positively no smell or ropiness.

This letter is written for Mr. P. W. Stahlman, of New York State, out of sympathy, and I am satisfied it can be cured for one cent per hive or colony. Of course, I will have to fall out with all who believe in no drugs. However, no man living dare stand up and say drugs have no effect. It is the careful, jealous hand they are given with that is half the battle. I fed beta napthol last fall with winter stores so that it would be stored in every cell in the brood-chamber, after all brood was hatcht out, and if it does not lose its

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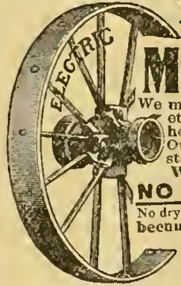

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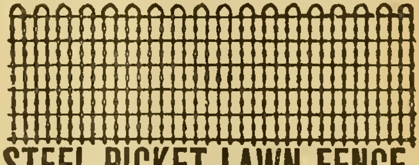
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virtue every larva will get some, perhaps, in the spring.

I expect to use beta napthol this spring if the bees are idle. It must be cut with alcohol, about ½ pint of alcohol to 2 ounces of napthol. I then stir it into 4 pounds of hot honey. It will positively have nothing to do with sugar syrup. I feed from ½ to one tablespoonful in each gallon of feed. I hope Mr. Thos. Cowan, of California, will say whether the above is any where near the right proportions.

Now, Mr. Stahlman, don't you think that transferring so many colonies and throwing them out of nurse-bees (which feed the larvæ) had a good deal to do with your trouble? (See page 204.)

I think the above disease points to a lack of nurse-bees, just in the heaviest breeding season.

My bees have been confined for 110 days now without a flight; however, I have no fears whatever.

CHARLES MITCHELL.

Ontario, Canada, April 20.

Bees Wintering Well.

I put 24 colonies into winter quarters packt 6 to 10 inches apart with straw in between and behind, in a shed open to the south, with a Hill's device of my own make, with super on filled with cushions and old clothes, etc. I let the sun shine full on them. Unless we have the bees where no frost accumulates in the hive, let them have the sun; we won't lose many bees that are worth anything, by flying out. Don't pack too much, and let them have the sun to warm up and dry them out. My bees are wintering well.

NOAH MILLER.

Iowa Co., Iowa, March 30.

Wintered Nicely.

I put out part of my bees this morning. They seem to have wintered nicely. E. S. MILES.

Crawford Co., Neb., March 22.

Wintering Fairly Well.

My bees are wintering finely so far. I put into winter quarters 37 colonies, and they are all alive yet, and seem to be nearly as strong as they were last fall. I use the Champion winter-case and pack with oat chaff.

H. C. CLYMER.

Linn Co., Iowa, March 20.

Stimulating Brood-Rearing—Stopping Robbing—Bee-Sting Remedy.

Last season was a poor one; I believe I was the only one in my neighborhood to get any surplus honey, and I did fairly well for these parts. My bees are in better shape this spring than ever before—I have not lost a colony.

Mr. Aikin, in a recent number of the Bee Journal, advises turning brood-combs end for end to stimulate brood-rearing. What's the matter with turning the brood-chamber on the bottom-board? I have done this a good many times, and always thought it beneficial, but I make no claim to being an expert, and have made no very particular experiments, but I cannot see why my plan is not just as good as Mr. Aikin's, and is a great deal less trouble;

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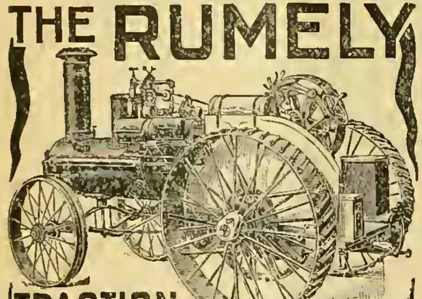

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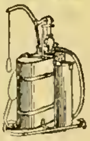

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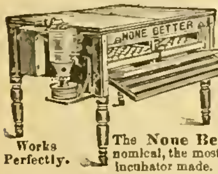

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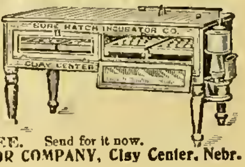

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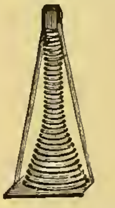

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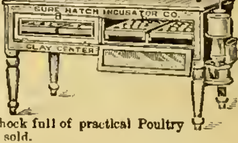

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but if there are many colonies, look out for robbing.

I have stopt the worst cases of robbing I ever saw with a spray-pump and cold water, in a few minutes; but don't spare the water—give every colony that shows any excitement a good soaking at the entrance.

Last season I used spirits of turpentine as a remedy for bee-stings (external application) on a number of persons besides myself, and even little children; it gave immediate relief in every case, seeming to neutralize the effects of the poison, and not leaving the least sign of swelling.

W. H. LEWIS.

British Columbia, Canada, Mar. 19.

No Loss in Wintering.

I put my bees out of the cellar March 25. I had put in 32 colonies, and carried out 32. To-day was a fine day, and they were just booming.

FRANK E. KNAPP.

Wadena Co., Minn., March 30.

How I Came to Be a Bee-Keeper.

About 13 years ago I was sick and miserable. In my neighborhood lived an old man, a bee-keeper by the name of Solomon Whitaker, and from him I took my first lessons in bee-keeping. He told me if I would get interested in bees that it would divert my mind from my sickness. He gave me a hive, and told me to put it up in a big tree down in his woods, which I did. I soon had the bee-fever, and had it hard, too.

In a few days I saw bees flying in and out of my hive. Supposing of course I had caught a swarm, I slipt up that tree very still, corkt up the entrance, and let the hive to the ground with a rope. I took the hive home on my shoulder, with the fever running at its highest pitch. And oh, how disappointed I was the next morning, when I found I had only about a dozen bees ("tree-hunters" I afterwards found out). I then bought a colony from the old man, for which I paid $4.

My attention was then turned toward hive-making. For tools I used a buck-saw and butcher-knife. Oh, weren't those hives and fixtures things of beauty! Some were tall, some square, and some long ones. The frames were from 6 inches to 18 inches deep; the spacing from an extra tight fit to three or four inches; the end-bars were made of lath, and most of them were put in edgewise; but they had the desired effect, for my health returned, and I think those were the happiest days of my life, for I loved those bees, and I haven't gotten entirely over it yet. I once heard a man say that "after woman he loved a horse next best;" with me it is bees next best, for how I love to hear their happy hum among the apple-blossoms.

I borrowed "Langstroth on the Honey-Bee" of Warren Longsdon, an old schoolmate, and at that time the leading bee-keeper of this part of the country; and from that book my eyes were first opened to the mysteries and scientific principles of bee-keeping.

I advise all beginners to buy their hives and fixtures, for it is next to impossible to make them right by hand. Also, to get a good text-book, say "Langstroth Revised," by Dadant, or "A B C of Bee-Culture," by A. I.

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The Queens Dr. Miller will send out on our orders will be precisely the same as those he rears for his own use, so of course they will be from his best stock. His best colony in 1899 had a queen reared in 1898; May 5, 1899, it had brood in 4 frames, and he gave it at that time a frame of brood without bees. It had no other help, but May 25 a frame of brood with adhering bees was taken from it, and the same thing was repeated June 3, leaving it at that time 5 frames of brood. It stored 178 sections of honey, weighing 159 pounds (and that after July 20, in a poor season), being 2⅔ times the average yield of all his colonies. A point of importance is the fact this colony did not swarm, and an inspection every week or 10 days showed that at no time during the entire season was there even so much as an egg in a queen-cell. Dr. Miller expects to rear queens from this one during the coming summer.

The demand nowadays is for **BEES THAT GET THE HONEY** when there is any to get, and Dr. Miller has such bees. You will want to have a queen from his best, we are sure.

Do not send any orders to Dr. Miller, as all orders **MUST** come thru us, according to our agreement.

Remember, send us $1.00 for **ONE NEW SUBSCRIBER** to the American Bee Journal for one year, and **YOU** will get ONE OF DR. MILLER'S UNTESTED HONEY-QUEENS FREE AS A PREMIUM. This offer is made *only* to our present regular subscribers. Orders for queens to be filled in rotation, beginning about June 1st.

Address all orders to **GEORGE W. YORK & CO.,**
118 Michigan Street, CHICAGO, ILL.

BUGGIES, Surreys, Stanhopes, Phaetons, Driving Wagons and Spring Wagons, Light and Heavy Harness, Sold Direct to the User by the Maker at Wholesale Prices.

Perfect in every detail of material, workmanship and finish. Any style vehicle sent anywhere for examination before purchase. Wherever you live you can buy of us and **save money.** We make all the vehicles we advertise. Large **free book** tells our plan in detail. Send for it.

EDWARD W. WALKER CARRIAGE CO., 50 Eighth St., Goshen Ind.

Please mention the Bee Journal when writing Advertisers.

LEWIS
FOUNDATION
FASTENER

The Lewis
Foundation Fastener.

Simplest and best machine for the purpose ever offered to the bee-keeper. Foundation easily, accurately and securely fastened. Adjustable for any style section of any width. Shelf can be adjusted for any ordinary lamp. Full directions with each machine.

Price, $1.00, without Lamp.

Thousands of Bee-Hives,
Millions of Sections,
Ready for Prompt Shipment.

G. B. LEWIS CO.
WATERTOWN, WIS., U.S.A.

BRANCHES:
G. B. LEWIS Co., 19 So. Alabama St., Indianapolis, Ind.
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AGENCIES:
L. C. WOODMAN, Grand Rapids, Mich.
FRED FOULGER & SONS, Ogden, Utah.
E. T. ABBOTT, St. Joseph, Mo., Special Southwestern Agent.

SEND FOR CATALOG.

The Midland Farmer
(SEMI-MONTHLY).

The representative modern Farm Paper of the Central and Southern Mississippi Valley. Page departments to every branch of Farming and Stock-Raising. Plain and Practical—Seasonable and Sensible. Send 25 cents, silver or two-cent stamps, and a list of your neighbors (for free samples), and we will enter your name for 1 year. (If you have not received your money's worth at end of year, we will, upon request, continue the paper to you free of cost another year).

W. M. BARNUM, Publisher,
Wainwright Building, ST. LOUIS, MO.
7Dtf Please mention the Bee Journal.

Queens, Bees, Nuclei, Etc.

Having been 27 years rearing Queens for the trade on the best plans, will continue during 1900 to rear the BEST we can.

PRICES:

One Untested Queen	$1.00
One Tested Queen	1.25
One Select Tested Queen	1.50
One Breeder	3.00
One Comb Nucleus	1.80

Untested Queens ready in May. Tested are from last season's rearing, ready now.

COMB FOUNDATION FROM PURE, YELLOW WAX.

Send for price-list of Queens by the dozen; also sample of Foundation. J. L. STRONG,
14Atf CLARINDA, Page Co., IOWA.

WE TRUST THE PUBLIC

and send our Incubators to any responsible person. No one should buy an Incubator and pay for it before giving it a trial. It is made so that nobody can fail with it. A child can run it. 10 cts. worth of oil will make a hatch. It beat all others at World's Fair, Nashville and Omaha Expositions. We are sole manufacturers of the celebrated New Premier and Simplicity Incubators. Catalogue 5 cts. Plans for Poultry Houses, etc., 25c.
Columbia Incubator Co., 5 Adams St., Delaware City, Del.

Adel Bees Did It!

SAN LUIS, COLO., March 2, 1900.
Last spring (1899) I ordered queens from five different queen-breeders and among them one queen from you. The bees from your (Adel) queen gathered more honey than all the others put together. (Signed) S. N. SMITH, M.D.
Send for price-list.
15D1t HENRY ALLEY, Wenham, Mass.

HATCH CHICKENS
BY STEAM—with the simple, perfect, self-regulating
EXCELSIOR INCUBATOR
Thousands in successful operation.
Lowest priced 1st-class hatcher made.
GEO. H. STAHL,
114 to 122 S. 6th St., Quincy, Ill.
Circulars free. Send 6c. for Illus. Catalog
44A26t Please mention the Bee Journal.

ALBINO QUEENS If you want the most prolific Queens—If you want the gentlest Bees—If you want the best honey-gatherers you ever saw—try my Albinos. Untested Queens in April, $1.00; Tested, $1.50.
12A26t J. D. GIVENS, LISBON, TEX.

VEHICLES AND HARNESS
At Less Than Wholesale Prices.

Ours is not a mail order house, buying from some factory to sell again at an increased price. Ours is a large and completely equipped manufacturing plant devoted exclusively to this line. We control absolutely all the elements of quality, style and finish and are thus enabled to sell you better goods for less money than any other house in the business. WE GUARANTEE EVERY VEHICLE OR HARNESS WE SELL as to quality of material, workmanship, style, etc. We have no dissatisfied customers. Write at once for our large illustrated catalogue—shows every article we sell. Mailed free.

KALAMAZOO CARRIAGE AND HARNESS CO., Box 53 KALAMAZOO, MICH.

F.B.W.Co

Please Mention the Bee Journal when writing Advertisers.

Root, and subscribe for the American Bee Journal, and you will be on the right road to successful bee-keeping.

I now use the Dadant hive, and run for extracted honey, and have made it pay in dollars and cents. To use Mr. Dadant's words, you must know what to do, and do it in time. One spring I workt my bees up so strong in numbers that by the last of May the hives fairly boiled with bees. I went away to work for a week, supposing the bees were getting plenty to live on from the fields; when I came home I found them in a fearful condition—the alighting-boards covered with the brood they had thrown out, the young, white-looking bees crawling all over the hives, and the grass in front full of them, some in bundles the size of walnuts. I pondered a long time to know what ailed my bees, but I couldn't make it out. I went to "Langstroth Revised," and I soon found out. I had a case of starvation. I then opened the hives, and there was not a particle of brood, not even an egg, or a drop of honey. I gave them all a good feed of sugar syrup, and in four days the blossoms were dripping with nectar. As strange as it may seem my crop averaged 50 pounds per colony that season.

I once had nearly a whole colony of bees inside of my pantaloons. Yes, sir, inside my trousers. My movements at that time were exceedingly quick, or rapid. My gesticulations were convincing, and with lightning rapidity. I think if the President had been there, yes, and the Mrs., too, I should have disrobed just as I did.

Ogle Co., Ill. BYRON WHITNEY.

Bees in Florida.

Bees have been holding high carnival of late, for fruit-trees and the ti-ti are blooming. Pears, peaches, plums, and dewberries are loaded with bloom, apparently no room for another blossom. I counted 45 blossoms in one cluster. Orange trees are not blooming, for their leaves were killed by frost; the wood was not injured, and some trees are leaving out to their very tips. Lemon trees are more tender and are killed to the ground.

Summer drouths are the "winters of discontent" to bee-keepers here, for many colonies perish by starvation when they are of long continuance, as they have been of late years.

I laid down my pen just now, and went to a neighbor's to look at his bees; they are very diminutive blacks, in movable-frame hives. On my asking the question, "How did your bees do last summer, and how are they now?" He said: "Last spring the ti-ti was killed by frost, and then a severe drouth prevailed, and bees stored no surplus; I've had to feed them to keep them from starving; for a few days they have been doing well—they are a month late; I've had no swarms yet, and I should have had by the first of March."

MRS. L. HARRISON.
Washington Co., Fla., March 29.

O Can It Be!

O can it be, that "flies are flies because they fly?"
O can it be, that "fleas are fleas because they flee?"
O can it be, that "bees are bees because they be?"
A. E. W.

The Honey-Bee.

Of all the things, in earth or air,
Of wondrous worth or beauty fair,
Few so prized, few could be
So valued, as the honey-bee.

At break of day, it sails away
To scented fields and flowers gay,
And sings its song, and works away
To gather sweets for winter's day.

It fills the hive to hold no more,
With garnered sweets—its winter store—
Then, grateful bee, no lazy sleeper,
A box it fills for its keeper.

Sweet, buzzing bee! so fair to see;
No second place we yield to thee,
In insect life, in earth or air,
Than fairy Queen, of mid-day air.

Arapahoe Co., Colo. V. DEVINNY.

Buggies on Approval.—No more liberal offer could possibly be made by any manufacturer than appears in the advertising of the Edward W. Walker Carriage Co., Goshen, Ind., elsewhere in this issue. They propose to send any of their celebrated make of vehicles for examination and approval at the reader's nearest railroad station, and quote wholesale prices direct to the buyer, saving middlemen's profits. They also offer light and heavy harness at prices that interest every horse-owner. A large book describing their goods and methods of pleasing customers will be sent free by the advertiser on request. Please mention the American Bee Journal when writing them.

NEW BOOKLETS.

The Chicago, Milwaukee & St. Paul Railway is issuing a series of booklets regarding points of interest along its lines, and if you are interested in the western country, or contemplating a trip, write GEO. H. HEAFFORD, General Passenger Agent, Chicago, Ill., for the special publication desired, enclosing four cents in stamps for postage for each one.

No. 1.—The Pioneer Limited.
No. 2. — The Land of Bread and Butter.
No. 3.—The Fox Lake Country.
No. 4.—Fishing in the Great North Woods.
No. 5.—The Lake Superior Country.
No. 6.—Cape Nome Gold Diggings.
No. 8.—Summer Days in the Lake Country.
No. 9.—Summer Homes, 1900.
No. 11.—The Game of Skat.
No. 12.—Milwaukee — The Convention City.
No. 13. — A Farm in the Timber Country.
No. 14.—Stock-Raising in the Sunshine State.
No. 15.—Hunting and Fishing.

We Want 50 to 100 Colonies of Bees

We prefer them on L. frames.
State lowest cash price wanted for same.
H. G. QUIRIN,
15A2t PARKERSTOWN, OHIO.

EGGS From Barred PLYMOUTH ROCKS Thorobred, Fine Plumaged Fowls. Farm Raised—75c per dozen.
MRS. L. C. AXTELL, Roseville, Ill.
15Atf Please mention the Bee Journal.

Apiary SUPPLIES Bee-Hives, (5 styles); also Sections, Veils, Smokers, Honey-Knives, Hive-Tools, Alsike and Sweet Clover Seed, Books on Bee-Culture, Etc. Address,
F. A. SNELL, Milledgeville, Carroll Co. Ill.
4A12t Please mention the Bee Journal.

Yellow Sweet Clover Seed

WE HAVE IT AT LAST!

We have finally succeeded in getting a SMALL quantity of the seed of the YELLOW variety of sweet clover. This kind blooms from two to four weeks earlier than the common or white variety of sweet clover. It also grows much shorter, only about two feet in hight. It is as much visited by the bees as the white, and usually comes into bloom ahead of white clover and basswood. We offer the seed as a premium

A QUARTER POUND FOR SENDING ONE NEW SUBSCRIPTION.

So long as it lasts, we will mail a quarter pound of the seed to a regular paid-up subscriber who sends us ONE NEW subscriber for the American Bee Journal one year, with $1.00; or ¼ pound by mail for 30 cents.

We have been trying for years to secure this seed, and finally succeeded in getting it. It is new seed, gathered last season by an old personal friend of ours, so we know it is all right. But we have only a small supply. When nearly out we will mention it.

GEORGE W. YORK & CO.,
118 Michigan St., - CHICAGO, ILL.

BEES QUEENS Smokers, Sections, Comb Foundation And all Apiarian Supplies cheap. Send for FREE Catalogue. E. T. FLANAGAN, Belleville, Ill.
Please mention Bee Journal when writing.

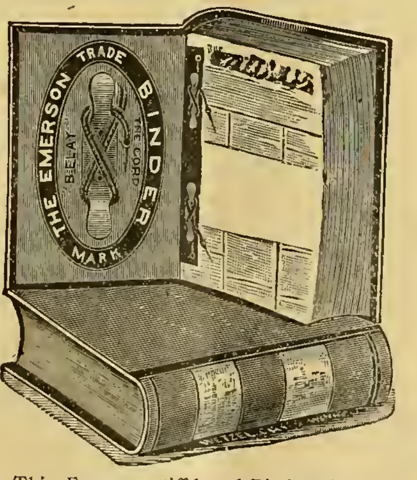
Rocky Mountain Bee-Plant Seed!
(*Cleome integrifolia.*)
...FREE AS A PREMIUM...

The A B C of Bee-Culture says of it: "This is a beautiful plant for the flower-garden, to say nothing of the honey it produces. It grows from two to three feet in hight, and bears large clusters of bright pink flowers. It grows naturally on the Rocky Mountains, and in Colorado, where it is said to furnish large quantities of honey."

We have a few pounds of this Cleome seed, and offer to mail a ¼-pound package as a premium for sending us ONE NEW subscriber to the American Bee Journal, with $1.00; or ¼ pound by mail for 40 cents.

GEORGE W. YORK & CO.
118 Michigan St.. CHICAGO, ILL.

The Emerson Binder



This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

GEORGE W YORK & CO.
118 Michigan Street, - CHICAGO, ILL.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, March 19.—We quote best white comb at 15c. An occasional small lot of fancy sells at 16c; off grades of white, 12@14c; ambers, 10@12c. Extracted, 8@9c for fancy white; 7@8c for amber; 6@7c for dark grades. Beeswax, 27c.

Receipts of honey are larger and the demand is not as good as it has been.

R. A. BURNETT & Co.

CINCINNATI, March 3.—There is some demand for extracted honey from manufacturers at 7@7½c for amber and Southern; clover, 8@8½c. Comb honey is selling firm at 14@16½c in a small way. Beeswax, 25@27c.

C. H. W. WEBER,
Successor to Chas. F. Muth & Son and A. Muth.

LOS ANGELES, March 1.—1-pound frames, 12½@15c; 2-pound cans, 2 dozen in case, per dozen, $2.50; 2-pound glass pails, per dozen, $2.50. Extracted, water white, 60-pound tins, per pound, 8½c; light amber, 7½@8c; dark amber, 7½c. Beeswax, 25@26c.

The prospect for a crop is very bad. Small lots in the hands of wholesale houses are firmly held.

BOSTON, March 9.—Our honey market is showing some signs of lower prices, altho the stock on hand is not large. At the same time prices are so much higher than previous years that the trade have taken it very slowly and the results are that the holders are willing to range prices quite a little in order to move stock on hand. Prices range: Fancy white, 17@18c; No. 1, 15@16c; amber, 10@12c; buckwheat almost unsalable. Extracted, best white California, 8½c.

BLAKE, SCOTT & LEE.

KANSAS CITY, Mar. 19.—We quote fancy white comb, 15c; No. 1, 14c; No. 1 amber, 13c; No. 2 amber, 13½c. Extracted, white, 8c; amber, 7c; dark, 6c. Beeswax, 22@25c

C. C. CLEMONS & Co.

BUFFALO, March 3.—Market nearly bare of all grades of honey. Probably no more from any source to market, but if so, fancy white comb is firm at 15@16c. Other grades from 14c downward, with the poorest at 8@9c. Fancy pure beeswax continues at 28@30c.

BATTERSON & Co.

NEW YORK, Mar. 8.—During the past 30 days our market has been somewhat slow and easy in both comb and extracted honey. Stocks of comb honey, however, are almost exhausted, and there is a fair demand for all grades. Fancy white selling at 15c; No. 1 white at 13@14c; fancy amber, 11@12c, and buckwheat at 9@11c, according to quality, etc.

Our market is well supplied with extracted, tho prices are firm and unchanged. Beeswax sells very well at from 26@28c, according to quality.

HILDRETH & SEGELKEN.

SAN FRANCISCO, Mar. 28.—White comb, 11½@12½c; amber, 8@10c. Extracted, white, 7½@8c. light amber, 7@7½c; amber, 5@5½c; Beeswax, 26@27c.

Supplies and demand are both at present limited, which is to be expected at the close of a light crop year. Business doing is mostly of a small jobbing character, and at practically the same figures as have been current for some time past.

OMAHA, Mar. 13.—Demand shows some improvement in January, having been much more active, but as anticipated there is no advance in prices. Market remains steady at 14@14½c for fancy white comb and 8½c for white extracted. The latter is pretty well cleaned up along the Missouri River, and it looks as if there would be some shortage before another crop comes in. From present appearances there is about enough comb honey to go around at the present prices, hence we look for no particular change in values.

PEYCKE BROS.

Here we are to the front for 1900 with the NEW
CHAMPION CHAFF-HIVE,
a comfortable home for the bees in summer and winter. We also carry a complete line of other SUPPLIES.
Catalog free. R. H. SCHMIDT & CO.
Sheboygan, Wisconsin.
Please mention Bee Journal when writing.

Latest Improvements. Perfect Goods.
Very Reasonable Prices.

Hives, Shipping-Cases Sections, Extractors, Etc.

EVERYTHING A BEE-KEEPER NEEDS. *********

Catalog and copy of
"The American Bee-Keeper"—FREE

—ADDRESS—

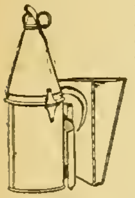
THE W. T. FALCONER MFG. CO.,
JAMESTOWN, N. Y.

The American Bee-Keeper is a live Monthly, and has been publisht by us for the past 10 years—50 cents a year.

Please mention Bee Journal when writing.

MADE TO ORDER.

BINGHAM BRASS SMOKERS

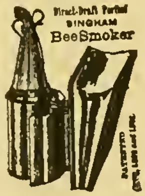


made of sheet-brass which does not rust or burn out should last a life-time. You need one, but they cost 25 cents more than tin of the same size. The little pen cut shows our brass hinge put on the three larger sizes.

No wonder Bingham's 4-inch Smoke Engine goes without puffing and does not

DROP INKY DROPS.

The perforated steel fire-grate has 381 holes to air the fuel and support the fire.



Prices: Heavy Tin Smoke Engine, four-inch Stove, per mail, $1.50; 3½-inch, $1.10; three-inch, $1.00; 2½-inch, 90 cents; two-inch, 65 cents.

BINGHAM SMOKERS

are the original, and have all the improvements, and have been the STANDARD OF EXCELLENCE for 22 years. Address,

T. F. BINGHAM,
Farwell, Mich.

I ARISE

To say to the readers of the BEE JOURNAL that

DOOLITTLE...:

has concluded to sell QUEENS in their season during 1900, at the following prices:

1 Untested Queen ..	$1.00
3 Untested Queens..	2.25
1 Tested Queen	1.25
3 Tested Queens	3.00
1 select tested queen	1.50
3 " " Queens	4.00
Select Tested Queen, last year's rearing .	2.50
Extra selected breeding, the very best . .	5.00

Circular free, giving particulars regarding each class of Queens, conditions, etc. Address,

G. M. DOOLITTLE,
11A26t Borodino, Onondaga Co., N. Y.

Please mention Bee Journal when writing Advertisers.

23rd Year Dadant's Foundation. 23rd Year

Why does it sell so well?

Because it has always given better satisfaction than any other.
Because in 23 years there have not been any complaints, but thousands of compliments.

We guarantee satisfaction.

What more can anybody do? BEAUTY, PURITY, FIRMNESS, No SAGGING, No LOSS.
PATENT WEED PROCESS SHEETING.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

BEE-KEEPERS' SUPPLIES OF ALL KINDS.

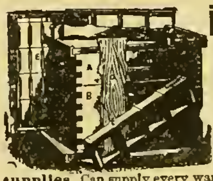
Langstroth on the Honey-Bee, Revised.

The Classic in Bee-Culture—Price, $1.25, by Mail.

Beeswax Wanted at all times.

CHAS. DADANT & SON,
Hamilton, Hancock Co., Ill.

Please mention Bee Journal when writing.



HONEY MONEY

results from the best care of the bees. That results from the use of the best Apiary appliances.

THE DOVE-TAILED HIVE

shown here is one of special merit. Equipped with Super Brood chomber, section holder, scalloped wood separator and flot cover. We make and carry in stock a full line of bee supplies. Can supply every want. Illustrated catalogue FREE

INTERSTATE MANFG. CO., Box 10, HUDSON, WIS.

FREE FOR A MONTH ....

If you are interested in Sheep in any way you cannot afford to be without the best Sheep Paper publisht in the United States.

Wool Markets and Sheep

has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.

WOOL MARKETS AND SHEEP, CHICAGO, ILL.

PATENT WIRED COMB FOUNDATION

Has no Sag in Brood-Frames.

Thin Flat-Bottom Foundation

Has no Fishbone in the Surplus Honey.
Being the cleanest is usually workt the quickest of any foundation made.

J. A. VAN DEUSEN,
Sole Manufacturer,
Sprout Brook, Montgomery Co., N.Y.

The Mississippi Valley Democrat
—AND—
Journal of Agriculture,
ST. LOUIS, MO.

A wide-awake, practical Western paper for wide-awake, practical Western farmers, stock-raisers, poultry people and fruit-growers, to learn the science of breeding, feeding and management. Special departments for horses, cattle, hogs, sheep, poultry and dairy. No farmer can afford to do without it.

It stands for American farmers and producers. It is the leading exponent of agriculture as a business, and at the same time the champion of the Agricultural States and the producer in politics. **Subscription, One Dollar a Year.**

☞ Write for Sample Copy

Please mention Bee Journal when writing.

☞ IF YOU WANT THE **BEE-BOOK**

That covers the whole Apicultural Field more completely than any other publisht, send $1.25 to Prof. A. J. Cook, Claremont, Calif., for his

Bee-Keepers' Guide.

Liberal Discounts to the Trade.

SECTIONS.

By an error in ordering, we have a large stock of 3⅝x5x1½ in. plain sections. We will sell these at a discount, until stock is reduced.

Catalog of Apiarian Supplies free. Untested Italian Queens 75 cts.

Apiaries—Glen Cove, L. I. **I. J. STRINGHAM. 105 Park Place, New York, N. Y.**

Please mention Bee Journal when writing.

Marshfield Manufacturing Company.

Our specialty is making SECTIONS and they are the best in the market. Wisconsin BASSWOOD is the right kind for them. We have a full line of BEE-SUPPLIES. Write for free illustrated catalog and price-list.

MARSHFIELD MANUFACTURING CO., Marshfield, Wis.

Please mention Bee Journal when writing.

GEORGE W. YORK, Editor.

AMERICAN BEE JOURNAL.

ESTABLISHT IN 1861 OLDEST BEE-PAPER IN AMERICA

DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS.

40th YEAR. CHICAGO, ILL., APRIL 19, 1900. No. 16.

CONTRIBUTED ARTICLES

The Charms of the Apiary.

Read at the Wisconsin Convention, at Madison, Feb. 7, 1900.

BY MISS ADA L. PICKARD.

PASSING leisurely thru the old meadow white as the driven snow with clover blossoms, we see a bee here, one there, and on every side; but to the average passer it is only a bee, made with a sting, flitting from flower to flower without purpose.

Miss Ada L. Pickard.

To me, the bee is beautiful, and, like man, it is "fearfully and wonderfully made," showing forth the handiwork of a wonderful Creator.

Some authors have placed the beetle as the highest order of insects; others claim the butterfly and moth entitled to a first place; while others, and with the best of reasons, claim for the bee the highest position.

The moth and butterfly are admired for the glory of their coloring and elegance of their form, and the beetle for the luster and brilliance of its wing-covers; but these only reveal nature's wealth, and live and die without labor or purpose.

The bee, or "white man's fly," as the Indians call it, less gaudy, usually quite plain and unattractive in color, is most highly endowed among insects. It lives with a purpose, and is the best model of industry and economy to be found among animals.

Think of the bees, so frail that they may be deprived of life by the slightest pressure, and how they toil on and on with that untiring energy from dawn until dark, and what an aggregate quantity of the most delicious and wholesome sweet those little insects will store! What beauty the immaculate comb, filled with that golden-colored, sparkling sweet, presents to the eye, making a most luscious and delicate food for the table—a food declared from the most ancient time until the present day suitable for king or queen. Reflect for a moment upon the wonderfully delicate receptacle the honey is stored in—little waxen cups or cells with walls about 1-180th of an inch in thickness, and also formed so as to combine the greatest strength with the least expense of material and room. It is certainly an enigma within itself.

Apiculture opens the book of Nature to any who love to look upon and study the marvelous pages she is ever waiting to unfold. She is ever presenting the most pleasurable surprises to those on the alert to receive them, and among the insect host, especially the bees, the instincts and habits are so marvelous that the student of this department of nature is moved with wonder and admiration.

By the habit of constant observation one becomes more able, useful, and susceptible to pleasure. The wide-awake apiarist who is so frequently busy with his wonder-working companions of the hive, can never be lonely or feel time hanging heavily on his hands. The mind is occupied, and there is no chance for dullness or languor. The tendency of such thought and study, where nature is the subject, is to refine the taste, elevate the desire, and ennoble manhood. If our youth, with their susceptible natures, become engaged in the wholesome study of nature, we shall have less reasons to fear the vicious tendencies of the streets. Thus apiculture spreads an intellectual feast, furnishing the rarest food for the observing faculties—that which the old philosophers themselves would have coveted.

Must the male sex of our race only enjoy this intellectual feast? Nay! nay! the Creator never intended that the wonder and beauty of nature should be revealed to man only. Man and woman were created equal, and why may not the feminine enjoy the pleasures and fascinations that the apiary may afford? Why may not any person who is cautious and observing take up apiculture either as an avocation or as an amateur? He must however be willing to work with Spartan energy during the busy season, and give prompt attention to all its varied duties. Enthusiasm, or an ardent love for its duties, is a very desirable qualification, and promptitude is an absolute requisite to successful bee-keeping, as *neglect* is the rock on which too many bee-keepers have wreckt their success.

Apiculture seems especially adapted to those whose life-work is a dull, humdrum routine, that seems to rob life of all zest. If more of our ladies, instead of seeking the office-chair, the place behind the counter, or the position at the school-desk—all of which shut out fresh air and sunshine, until pallor and languor points sadly to departing health and vigor—would seek *apiculture* as an avocation, we might have, instead of pale, wan cheeks, roses and blooming health.

> "Ask not for life of ease, but ask
> From strength to strength to grow.
> Pray not to measure out your task
> By powers that you may show;
> But ask for powers to meet demands,
> For love that knows no strife,
> For crystal vision, tireless hands—
> A better self for life."

Richland Co., Wis.

How to Raise the Price of Honey.

BY JOHN R. SCHMIDT.

DURING these days of advancement in the prices of material of all kinds, and bee-keepers' supplies being no exception, more ought to be said in the columns of our bee-papers regarding how we may advance the price of honey in order that the ever-advancing prices of supplies, which have already reacht an unwelcome figure, may be compensated for.

It is true that within a year or so prices of honey have advanced somewhat, and bee-keepers are rejoicing universally; but so have the supplies advanced, and we are only too willing to look upon one side of the book only where there seems to be a gain. But what has caused this rise in the market, both in the price of honey and also in the supplies? Has there not been a scarcity of honey, and are we not told that the lumber districts are fast diminishing, and monopolies and trusts are controlling almost every useful article that is in demand? We know that overproduction tends to lower the price, and failure to meet the demand raises the price. This is just what has caused the advancement in the price of honey, and is also true in the other case; but will the prices of supplies continue to advance? Most assuredly they will. We can not replace our timber in a few years, which is now rapidly becoming less and less, nor can we hope to abolish monopolies and trusts—they are a "good thing" for the people who form them, and are the natural result of keen competition. So long as manufacturers combine to protect themselves against failure, bankruptcy and the "cut throat" prices which would prevail among them were it not for such an agreement of combination, so long will the prices continue to rise, and trusts continue to form. Therefore, we can not expect to find relief by abolishing, but can only hope to control them.

If prices are bound to advance in supplies, and no hopes are given us of ever expecting to see those much-needed articles cataloged at the old familiar prices, how are we to compensate for this increase in expenditure, and raise the price of our honey accordingly? This is a question which is of vital importance, and one which should ever be in the minds of those interested in the production of honey.

It is true, as I have said, that prices have advanced, but this advancement was the result of a scarcity of honey, and when after a good season the market will again be flooded and prices will drop to their former figure, then there will again be the old complaint of low prices, from all quarters. But how are we to maintain the present price and continue the advancement? There is only one way. Bee-keepers, like farmers, can not form trusts or combines, and it is impossible to corner the honey crop, so we must appeal to the bee-keepers themselves.

It is the unconquerable desire among bee-keepers to market their honey as soon as it is harvested, and "the sooner the better" is the only thing thought of. This is just where a very, very great mistake is made; as a result honey becomes a drug upon the market, and low prices reign. To make matters still worse, "quotations" are given which tend to drop rather than rise. This causes the bee-keeper to ship his honey immediately for fear of losing a few cents per pound if he holds on to it any longer. After it is all sold he begins to realize the low figures which his honey sold for, and often this is where the commission man comes in for a good "raking," if I may be allowed to use the expression.

This year, or the past, has been a good one for the advancement of prices on honey, and owing to the scarcity and the "holding back" of large quantities, a better price was commanded, and it was gladly given. This is the only way we can maintain the price in the future, and the key-note of success has been sounded in some of our periodicals, warning those who have honey to hold on to it and ask a higher price. Some say that necessity compels them to sell as soon as it is ready for the market. This necessity is the result of the bee-keeper's thoughtlessness in the beginning. Why not sell only in small quantities, and still have a good supply unsold for late winter and early spring demand, instead of rushing the whole crop off at once, getting your money all at once, and, as a result, an empty pocket-book and no bank account later on, which again forces the coming crop upon the market.

Honey that I sold for 13 cents early last fall would now find a ready sale at 18 cents. Hereafter, my small crop of honey will sell at a good price in the beginning, or remain stored until I get my price.

Small bee-keepers who do not depend upon apiculture alone for a livelihood have much to do with setting the price of honey, and it is to them that we must appeal. They are the ones who often supply the grocery trade in the vicinity in which they live. Often in early fall they bargain to supply the small demand of the grocer at a low figure just to have their honey move off quickly; and immediately this price becomes the standard with that grocer, and he is unwilling to give the professional a higher price, because he can buy all the honey his trade calls for at a lower figure.

Now, how are we going to remedy this? It can only be done by calling bee-keepers' attention to this very important question, and keeping it constantly before them. This we can only do thru our papers and conventions. Then when we begin to learn that in union only there is strength, and that we must work together for mutual benefit, and not each one for himself, the time will be near at hand when the fond hopes of the bee-keeper for higher prices will be realized.

Hamilton Co., Ohio.

Detecting the Initial Stage of Foul Brood.

BY F. GORDON.

I AM a member of a reading circle that takes several American bee-papers, the American Bee Journal among them. For long I have been musing, the fire is kindled, and at last I feel I must speak with my tongue—subject, foul brood.

I congratulate you that some parts, at any rate, of your land seem to be so free from it that many bee-keepers do not recognize it in its *incipient* stages. I refer especially to page 819 (1899), in the proceedings of the Utah bee-keepers' convention. "Mr. Lovesy, in giving his experience with foul brood, opened up a new field of investigation," etc.

For the benefit of the craft, let me urge upon you that this field has been investigated long ago, and the "back presentation" of larvæ in their cells that he refers to is the recognized orthodox first stage of foul brood, and *the only stage in which drug treatment will be at all satisfactory*.

Tho Mr. Cowan's "Guide-Book" leaves room for more light, still this stage is accurately described therein. I have been to hives, with a spray diffuser of phenyle mixture, searcht their brood-nests thru; and if I found *one single larva*, amid a hive of healthy brood, showing me its back instead of being curled round in the normal manner, I would say to myself, "foul brood," and apply the medicinal spray forthwith. Many times I have had the gloomy privilege of watching the disease develop from such beginnings, thru the yellow to the coffee-color pulp that draws out, and beyond that to the dried-up scale half way down the cell. *In cases* I have seen the disease arrested at the "restless larva" or "back presentation" stage, but whether by the phenyle sprinkling, or by a good honey-flow, I do not care to say.

Referring to the well-known photograph of a *badly diseased comb* that is publisht, I am impelled to say that it may, instead of being a help to the novice, become most misleading, in fact is almost bound to be so. The disease depicted there is bad—very bad—and any careful bee-keeper of two years standing or less, who knows the look and scent of a healthy brood-nest, could not fail to perceive something seriously wrong if he discovered one of his hives in such a putrid state as that, even without the aid of any photograph or instructioon. But to wait for such an appearance before recognizing foul brood is a most lamentable mistake. The disease has then had *at least three weeks visible run*, possibly several months, and is past the redemption point, fit only for the fire and the spade.

I said "*visible*," for how long the disease had lain dormant nobody knows. But the bee-keeper could have seen it three weeks before, and perhaps saved his combs as well as the adult bees.

Mr. Simmins, editor of Bee-Chat, gives a still more preliminary stage, viz.: Patchy, irregular brood-nest. That is, where a few of these yellow, restless larvæ have been turned out by energetic workers as soon as affected with the disease, before the eye of the owner ever saw them; this leaving, of course, either empty cells among brood; or cells with different aged larvæ contiguous, supposing the queen finds those empty cells and lays in them. I believe this to be a perfectly correct symptom of the bee-keepers' pest—genuine foul brood.

Touching on remedies, izal has been praised of late. Personally, I have found it of no manner of use. Mr. Simmins tells me it is because my bees were blacks. Carniolans and Italians he considers much more immune. After fighting the disease two seasons I finally had to destroy my whole apiary of about 60 colonies to get rid of it.

Some time since there was a case recorded, I think in the American Bee Journal, of a man who sent up a sample of suspected comb to a professor for his opinion, and was told the comb was not diseased, whereas subsequent events proved it was diseased. The professor replied, describing the coffee-colored, stretchy character of diseased matter, and saying he could hardly credit how such a mistake could have been made. I think a very simple explanation would be that the aforesaid comb was in the initial stages of the disease, showing only pale yellow displaced larvæ, and no coffee-colored matter at all, which, of course, developt later in the owner's hive. Cumberland, England.

Separators or No Separators, Etc.

BY EDWIN BEVINS.

On page 106 is an item headed "Separators and Fences." The first sentence affirms that F. L. Thompson says that "the idea that sections are better filled without separators than with them is a mere notion." Standing alone, this sentence, like some texts of scripture, would leave the reader in some doubt as to what the author was driving at. Further on Mr. Thompson is quoted as saying that "a number of times he tried separators in half of a super, with no separators in the other half, and that the result was always the same—no difference." The last quotation serves the purpose of a key to the meaning of the first one, and altho I have not read the article from which these quotations were made, I conclude that the article in its entirety was an argument against the use of separators.

Now, how many bee-keepers in the United States will stand up and say that they have observed no difference in the weight or smoothness of sections of honey produced with and without separators? I have used supers in the same yard for several years—some with and some without separators—and there has always been a markt difference both in weight and appearance of the sections. A super full of sections when filled with honey would always weigh more than a super with separators. The sections without separators were always unevenly filled and difficult to prepare for shipment. If this is not Mr. Thompson's experience, I believe it is the experience of nine out of ten, if not of ninety-nine out of a hundred, of comb-honey producers. But I will pursue the subject no further, having, as I said before, not read Mr. Thompson's article, and it may be that I have been fighting a man of straw.

CROSSING SWORDS WITH MR. DOOLITTLE.

I am aware of the hazard in differing from Mr. Doolittle about anything pertaining to the management of bees and bee-hives. Armed cap-a-pie with apicultural lore and experience he riots amid the crowd of less well equipt bee-keepers as the armed and armored knights of the middle ages rioted amidst the common herd of the soldiery of the times.

But I will venture to say that I do not quite like his recommendation to use the 10-frame Langstroth and dove-tailed hives in place of the 8-frame sizes, and then contract to seven frames during the white honey-flow. This management may be good for those who do not care to give their bees in 8-frame hives much attention in cold weather, as the after management may be made conducive to successful wintering.

The principal reason for my objection to the change is, that, with this lateral expansion of the brood-chamber there must be a corresponding expansion of the super. I am becoming more and more convinced that a super holding 24 4¼ sections is quite large enough. Observations in recent years have inclined me to the belief that I would prefer a super taking less than 24 sections to one taking more. The objection to a change to a smaller super is the difficulty of adjusting the double-purpose brood-chamber to the one-purpose super.

FASTENING FOUNDATION ON MOULDED TOP-BARS.

And now I will tell the bee-keepers who use moulded top-bars a trick I have learned about fastening foundation. I use a Daisy foundation roller to roll the foundation on, and this fastening is sufficient if the frames are used immediately, but the foundation in frames not used soon will loosen in places, if not all along the bar. To prevent this, use a splint the length of the foundation, nailing it on with some fine wire nails. The splints may be made from the small branches of willow or other straight-grained wood that splits easily, and the convex side of the splint placed against the rolled edge of the foundation. Supply manufacturers could cheaply furnish splints for the purpose.

Decatur Co., Iowa.

The Principles of Plant Growth or Work.

BY PROF. A. J. COOK.

From numerous letters which I have received, I feel quite certain that many readers will not only gain pleasure, but much of value, if I give in this article a simple, plain explanation of the principles of the plant growth. Indeed, every bee-keeper and every farmer can not be too well verst in the principles of vegetable physiology. There are many who think that the plant takes the honey right from the sap. It would seem that simply tasting of the sap would quickly correct this mistake.

One of the most wonderful discoveries of this century was that of Schwann, made about 60 years ago, of the cell. It was shown that the basis of all structure of both animals and plants consists of cells. These cells are very much the same whether in the plant or animal. The plant then consists of cells—little sacs or vessicles, which are not as their name implies, empty vessels, but are always full of a semi-liquid substance known as protoplasm or cytoplasm. This cytoplasm is the great worker in all plants and animals. Thus the cells are the seat of all work done; and all the work is done by this cytoplasm.

As every well-informed person knows, we are constantly wearing out and building up. Whenever we do any work, like moving a muscle, tissue tears down or wears out, and at once builds up again. This is why we must constantly have food to furnish material for this building up, or anabolism as it is called. The plants behave in the same manner. They wear out and build up. The cells which make up the organism act in this respect as the whole organism acts. They are the workers, and in working they wear out, and as surely must build up. Thus, the plant will starve without food, just as surely as will the animal.

We see, then, why plants languish when water, their most important food, is withheld, or when they are in a poor, worn-out soil. These cells perform two important functions. They have the power to absorb liquid substances and pass them on to other cells. In this way the sap goes from the roots far up to the leaves.

The other important work of these cells is to do the work of the plants, taking certain food elements and building up vegetable tissues. They are then carriers and manufacturers. It is the function of the living cell everywhere to take up the liquids that come in contact with it. Thus the cells of the roots of the plants take water and the mineral salts, and, as we have seen above, they pass these up thru the trunk and twigs, even to the topmost leaves.

Perhaps water is the most important element which the roots take, and, contrary to what most people think, practically all water comes from the roots. The mineral elements are quite numerous; but only three need usually be supplied to the soil. These are nitrogen, potash and phosphoric, each of which is always combined as it passes along in solution with or as a part of the crude sap from the roots. As this material passes from the cells usually in the outer sapwood, the cells take what they need for their nourishment. They especially draw heavily on the nitrogen. As stated, this sap passes to the leaves.

The leaf-cells, as also the green part of the bark, have as a constituent of their protoplasm, chlorophyll. There comes into the leaves from small breathing-mouths on the underside, called stomata, carbon dioxide from the air.

The leaves by virtue of the protoplasm in their cells have the power of forming carbo-hydrates, probably from the water and carbon dioxide, the former of which they receive from the roots, the latter from the air. While it is probable that most of the carbro-hydrates—by which term we mean the starch, sugars and cellulose—is made from the carbon dioxide and water, it is very probably true that the cells have the power of converting their own proteids or nitrogenous elements into these carbo-hydrates, which they might do in case the water or carbon dioxide was not present. We know that animal cells do something very like this.

The material manufactured by the leaves is usually some form of sugar. This is borne away in solution in what is sometimes called "elaborated sap," and taken to the cells, changed into starch often and stored up; as starch is insoluble it will remain until changed again to sugar. Whenever there is excess of the carbo-hydrates, this starch is stored; and when needed it is again changed into sugar and borne away to be used. The cell-walls, and indeed all the woody part of the plant, is formed by changing this sugar into cellulose, which is the substance of all woody tissues.

The growth of all our common trees is always added to the outside in the cambium layer which consists of the outer sapwood and the inner bark. In this way a ring is added to the tree each year. We therefore call such plants exogens, which word means outside growers.

As stated above, the nectar of plants is not sap. At the base of the flower, or wherever nectar is secreted, there are special nectar-cells, which differ not only in appearance from the ordinary cells, but have a different function. These have the power to take sugar from the sap which they may simply deposit, or possibly they may take some element from the sap and change it into sugar. This is almost always cane-sugar. Thus, these cells secrete sugar from the sap, and do not simply pass the sap out into the flower. The sugar of the nectar may be in the sap, or may be formed by the nectar-cells. In any case, the nectar is quite different from the sap.

We have seen that the nitrogen in combination carried up by the sap is used for the nourishment of the cells. The probable use, then, of the nitrogen is to promote the growth of the plant. A soil very rich in nitrogen will show thrifty plants. It is supposed that the potash and phosphoric acid are more needed in the fruiting or formation of fruit and grain of the plant. Without doubt all of these elements are needed in all growth and development.

I have called attention above to the chlorophyll of the leaves. This is what makes the leaves green. In the work of the leaves this is constantly being used up. It must, therefore, be constantly formed, or the plant will become pale and sickly. To form the chlorophyll the leaf must not only have the necessary elements, but also sunlight. We see, then, why plants or grass under a board become pale. The chlorophyll is used up, and in the absence of sunlight can not form again.

I stated above that all the water of plants comes from the roots. Those who have noticed how plants revive on a foggy morning may doubt this statement. As the sap passes to the leaves the water is constantly evaporated from their surface, leaving the salts which it bears for their nourishment. It is probable that the leaves do the hardest part of the work of the plants. By this evaporation an immense amount of water passes off. A foggy morning in time of drouths revives the plant, because it prevents this excessive evaporation.

We should never use the word digestion in referring to plant work. Digestion is the preparing of the food so that it can be absorbed. Plants rarely take any food that can not be absorbed. Therefore, most plants have no digestive organs, and perform no digestion.

Keeping Bees on a City House-Roof.

BY "URBANITE."

EARLY in April, 1899, I became the possessor of two colonies of bees. They were delivered one evening after dark, and in hoisting them up to the roof of my house (for there it is where they were to be located), the hives were bumpt against the wall, turned over and over, and the combs, being heavy, old and not wired, broke from the frames, so that it was impossible to lift up one without disturbing all the rest. All the combs in each hive were one solid mass—I might say mess. It was clear they had to be transferred to new hives, and my son and I undertook the job with much misgiving. But we succeeded fairly well and without too much waste.

By the end of the month the breaks in the combs had been repaired, and each frame could be taken out with ease and comfort. By the middle of May the hives were full of bees—boiling over.

Being away from home during the day it became necessary to prevent swarming. This was managed by the use of entrance-guards, by giving plenty of room, and by dividing. They did swarm, after all, but returned after an absence of about an hour or less.

A third colony was started by taking two frames with brood from each of the two hives, and replacing with frames filled with foundation, and a queen was sent for which did not arrive until June 20. She was introduced the same evening, and reared a hive full of fine Italians; but the colony produced only 39 pounds of honey, having been queenless 32 days. The bees in this hive, however, gave me the satisfaction of allowing me to exhibit them with safety to strangers. Frequently have I taken out one of their frames with crowds of bees on each side, they keeping quietly at work without resenting the exposure, and affording my friends the opportunity to enjoy this novel sight at close range.

In all this there is nothing new, and you may want to know what is the use of going to the trouble to write about it. My object is to show that it is easy to keep a few colonies on the roof of a house right here in this city, and that bees so placed will more than pay for their keep, and that hundreds of men with some leisure on their hands might engage in this most interesting and useful diversion, if they will only make up their mind to it.

An apiary on the roof of a house has its drawbacks—carrying things up and down stairs and ladders in the hottest time of the season is not what you may call "a picnic," but, on the other hand, there are advantages: The bees have perfect quiet, and are not interfered with, anything left lying around loose is not lost, and the small boy is barred out.

When I commenced it was with the apprehension that possibly the neighbors might consider my bees a nuisance, but after the season opened, and it was seen that they were inoffensive, strictly attending to their own business, I had no more fear—they became popular favorites, and when my wife sent to each of our neighbors a tumbler full or so of honey from our first extracting, all became friends and admirers; they take a kindly interest in my bees, and my hives are pointed out by them to visitors as objects of curiosity, well worth seeing.

I had hoped that the bees would produce enough honey to supply the needs of our small household, but when extracting the first time, and getting honey by the bucket full, I was most agreeably surprised, tho I should have known better. It was stored from the white sweet clover, of which there are miles between the West Side and the Desplaines River, and the blossoms were out in considerable quantity by June 15, and continued to the end of October; but I think the bees did not get much nectar out of them after the first of that month. No goldenrod, usually very plenty, was seen last fall. The quality of the honey was superb. It was put up in Mason fruit-jars, and sold to neighbors and acquaintances at the rate of 50 cents a quart. There was no difficulty in disposing of our surplus; in fact, a great deal more than we had was spoken for.

My expenses were $28—that is, $8 for the bees, and the balance for new hives, frames, foundation, extractor, comb-basket, smoker, veils, and some few tools. For this outlay we had to show: 194 pounds of extracted, and 24 pounds of comb honey, and an increase of one colony. Should they come thru the winter all right, as I expect, the cash outlay next season, as far as these three colonies are concerned, will probably not exceed one dollar.

I know of but one of my personal acquaintances who keeps bees here on the roof. His is a two-story house on which there are nine colonies, which produced last season more then 110 pounds on an average, one running as high as 200 pounds. He was more successful than I, but then he is an old hand. He tells me he has a number of colonies on his farm in Missouri, and only brought here these few "to keep him company."

Chicago, Ill.

The Honey-Extractor—Ancient History—"Honor to Whom Honor is Due."

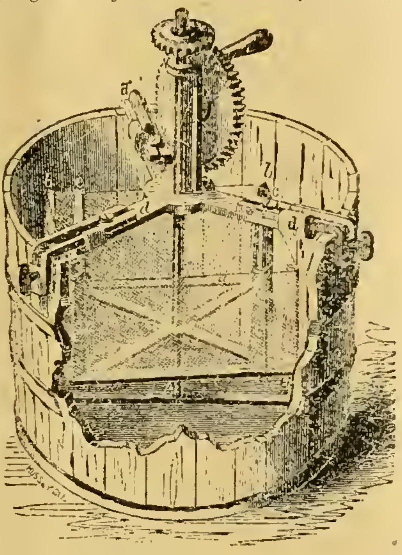
BY M. M. BALDRIDGE.

"THE first honey-extractor put on the market in the United States was the Peabody. It was invented by J. L. Peabody, who now resides in Colorado, and was patented by him in 1869."—(See page 73, No. 5, American Bee Journal.)

No. 11 of the American Bee Journal lies before me. I have waited very patiently till now for some one verst in "ancient history" to correct the first statement made in the foregoing citation, copied from Gleanings in Bee-Culture, but no one has done so. As I was living in 1869, I will try to show what some of the facts were at that date about the honey-extractor, and to whom belongs the honor of its first introduction to the bee-keepers of the United States.

In the latter part of February or early in March, 1868, L. L. Langstroth & Son sent me their annual printed circular, dated Feb. 20, 1868, in which they say:

> "A plan has been devised in Germany for emptying honey from the comb without injuring the comb or removing the bee-bread or any other impurities. By returning the emptied comb to the bees the yield of honey in favorable seasons may be largely increast. An improvement on the German apparatus for effecting this object was devised and patented by L. L. Langstroth and Samuel Wagner, but further experimenting has resulted in so simplifying the machine that, as now made, it is neither patented nor patentable. We annex a cut of the patented machine, which will give a general idea of the principle on which the modified apparatus works. As now made it has been thoroly tested and found to work admirably. Two full combs in the Langstroth frames can be emptied in less than 3 minutes after the cells are uncapt, to accomplish which we use a knife made expressly for this purpose, and frequently dipt in BOILING WATER to prevent clogging of the edge. We make but one size of machine, holding two of the standard size Langstroth frame (8⅝x10½ inches INSIDE measurements.) Frames of smaller size, or broken pieces of comb, can be emptied in it. Price of machine complete, including knife and barrel, securely packt and delivered to the express companies at the place of manufacture in Central New York—$12. The liquid honey, put up in glass self-sealing fruit-cans, we find to sell readily wherever introduced to the market. As we shall have the machines manufactured only as ordered, those wishing them to use this season should order early."



The circular, from which I copy the foregoing, is still in my possession and I will send to the editor the picture or cut of the patented machine referred to by Langstroth & Son, with the request that it be reproduced in the American Bee Journal, so its readers may see and examine it for themselves.

On March 10, 1868, I sent my order for the honey-knife and the improved machine to Messrs. Langstroth & Son, and in a short time thereafter the same were sent to me in this city from Central New York, but from what point I do not just now remember. The machine was tried by me as soon as received, but it did not suit me very well, and mainly because it had no gearing—simply a short, horizontal crank on top of the spindle to make the extracting-box revolve. Otherwise the machine was a good one of the kind. The outer-case was simply a well-made barrel.

In the month of May following, I received an order for a Langstroth machine from A. E. Trabue, of Hannibal, Mo., a practical and extensive bee-keeper near that city, as I was acting as agent for Langstroth & Son. As I thought I could improve the machine in many ways. I sent on to Mr. Trabue the one I got from Central New York. I then got up a number of extractors and added a gearing to each of them. One of those machines I sold to Jas. M. Marvin, of this city, in the summer of 1868, and he used it in his apiary from year to year up to the date of his death. That was a strong, durable, and practical extractor and it is still in good repair and ready to do a fair day's work, so I am assured by a nephew of Mr. Marvin who now owns the same machine. This nephew also resides in this city.

I advertised my make of honey-extractors by circular, and otherwise, in 1868, and for several years thereafter, and sold a number of them to bee-keepers in this and other States.

Now, my main purpose in mentioning some of the foregoing facts is simply to prove, as a matter of history, that my old friend, Peabody, whom I knew personally quite well while he was a resident of Illinois, did not by any means put on the market of the United States the first honey-extractor; and, besides, to bestow honor upon whom the same belongs. Kane Co., Ill., March 16.

Some Excellent Apiarian Suggestions.

BY WM. M. WHITNEY.

To one contemplating bee-keeping I would say, before you commence actual practice say during the winter—procure some good work on the subject and study it thoroly. Make a plan of your bee-yard and mark the places for your hives and number them. With this diagram before you, open your book of instructions and commence manipulating your imaginary hives according to the directions given, noting what has been done with each hive. Thus will be fixt in the mind the different operations, so that when the actual practice begins, you will not feel the degree of embarrassment which you might otherwise experience in an emergency.

In the meantime subscribe for some good apicultural journal—more than one would be better. Then, in the spring, you are ready to take care of 2 to 10 colonies of bees, with plenty of leisure for other pursuits.

Adopt standard appliances—hives, supers, cases, frames, sections, etc.—always keeping in mind your particular locality and its needs. To do this your eyes and ears must be quick to catch every important matter pertaining to your business. then if you have a reasonably good field for operations, and are a live, wide-awake person. as above indicated, you will meet with a fair measure of success.

Let *fads* alone, until those who make it a business to experiment, have tested and proven their efficiency. I am not opposed to those who are experimenting along those lines, for many of our very valuable improvements have been dubbed *fads*, and have met much opposition and ridicule. But the beginner in any enterprise should feel his way carefully, if he would escape the pitfalls that lie concealed along his pathway.

Apiculture—if I may be allowed to digress—in its full significance, includes both science and art, and, to some extent, might be taught in our schools of technology. It is as much a distinct branch of business as horticulture, floriculture, or any other specialty in rural pursuits, and can only be carried on like the others successfully by the specialist; therefore, it is not adapted to the ordinary or average farmer, so many of whom conduct their farm operations in a loose, slipshod manner.

Do not understand me as meaning that farmers should not be bee-keepers, for among the rural population is the proper place for the pursuit, but persons should be trained for it, and many farmers are experts, but unless one intends to study the business thoroly. and do his work in the best manner, keeping his bees healthy, and everything neat and clean, he should let it severely alone, or he will sooner or later meet disaster, and spread disease and death among the apiaries of the surrounding country.

To emphasize what I wish to convey, let me give one illustration only, among many which might be given, viz.: While talking with a man from the country not long ago about bees, he said to me:

"A neighbor has 18 or 20 colonies. He started with two Italian colonies which he bought in movable-frame hives, but concluded he could not afford to buy such hives, so made common box-hives for the increase. When more honey was needed than could be got from boxes on top of the hives, the bees were killed to get it. I bought two hives of him last summer for the honey, and in the fall I butchered the bees and got over 100 pounds of honey."

Now, I would like to *butcher* all such bee-keeping. If the business was in the hands of expert persons, scattered about among the people of the rural districts to fairly occupy the ground, it would be to the advantage, not only of the manufacturer of bee-keepers' supplies, but of the publishers of bee-literature. and would be much better for all concerned, than the indiscriminate bee-keeping which is so often advocated at bee-keepers' conventions, and thru the medium of apicultural journals. Kankakee Co., Ill.

Celluloid Bee-Button.—We have had made to order a very neat ⅞-inch celluloid button to pin on the coat-lapel. Upon it is the picture of a golden queen-bee, and around the edge these words: "Our toil doth sweeten others." It will especially please the boys and girls, and is a neat thing for members of bee-conventions to wear. It is a nice badge or emblem of the sweet industry in which bee-keepers are engaged. Prices, postpaid: One button, 8 cts.; 2 buttons, 6 cts. each; or 5 or more, 5 cts. each. Stamps taken.

THE AFTERTHOUGHT

The "Old Reliable" seen thru New and Unreliable Glasses.

By E. E. HASTY, Richards, Ohio.

OVERSTOCKING IN COLORADO.

So it appears that in Colorado an apiary seems disinclined to increase after the 100-colony mark is reacht—and this when a small apiary with the same field to itself would increase rapidly. This looks like overstocking, but not necessarily *ruinous* overstocking. Fairly good crops may be hoped for, I think, even under conditions where swarms are not plenty. Also the stock may be too large for the pollen supply, when it is not too large for the honey supply. As a relief from swarms, I am not sure but some of us would be glad to get into just such a location as the latter. Page 134.

Mr. Lyon, on the same page, strikes into an element of the overstocking question which is usually unconsidered. One colony has 30,000 bees, and 20,000 of them are field-bees. Manifestly a given range could support a thousand of the latter kind of colonies as well as a hundred of the former—that is, so far as honey goes it could.

THAT SNOWBOUND TEXAN APIARY.

A Texas apiary piled with 18 inches of snow—and a good-looking man standing in the midst! Quite unique. (Page 145.) Now let's have a Norwegian apiary shaded by palms, and naked little darkies climbing in them picking the cocoanuts.

A SHORT SERMON ON JUSTICE.

But, Mr. Victor, instead of congratulating you on getting even with the thieves, I fear I must read you a sermon instead. Is it right to keep five men in jail 30 days when only one committed the crime? In dealing with men of another race it's easy to say, "O they're all thieves;" but mostly this is not true. It is not only possible, but more than possible, that one or more of your victims disapproved of the theft, and remonstrated about it. Or, some may have been steadily duped by stories about wild honey from the trees. One of the reasons why this nation was formed in the first place was that accused persons might have a prompt trial. And one of the minor reasons why we went to war with Spain was that Cuban-American citizens (no better a lot than your five, quite likely) were kept in jail without trial. I suppose the Sheldon of it would be: How would Jesus Christ have us proceed toward five men, one of whom had been stealing, and the other four not anxious that their friend be punisht?

ACTIONS OF STUNG ANIMALS DIFFER.

So we are to understand, on as good authority as Prof. Cook, that the standard remedy in case of an animal desperately stung, is blankets kept dripping with cold water. But cow as well as man is subject to "locality." The case of one who stood and writhed and died, without thinking of such a thing as running away, does not prove that all would do so. And, by the way, I think we have somewhere evidence that *sometimes* the horse, after receiving hundreds of stings, drops his violence and becomes docile and almost affectionate. Page 147.

A SCIENTIST'S VIEWS ON HONEY.

Scientist Headden's doctrine that ripe honey is one-third water, he must expect us to kick at. Is not one-fifth nearer it? And his surmise that stirring honey does not make it candy any quicker is pretty surely wrong. As to his statement that the relative amount of dextrose and levulose is the same in all samples of honey—perhaps we would better lay that up on a handy shelf, without either believing it or disbelieving it just now. Would rather strain our "believer" to believe that the most solid samples of granulated honey are half fluid, as his statements seem to imply when put together. Page 147.

GETTING AT THE SIZE OF FOUL-BROOD SPORES.

Thanks to Prof. Gillette for his characterization of the foul-brood bacillus. Some longer, some shorter, but the longest ones proportioned like half a lead-pencil. I would gently remonstrate about the 1,800,000 spores spread to dry on the head of a pin. That kind of illustration does not after all *help* our minds, but hinders and stupefies. Let's see if we can't do better. I find that a book at hand has 384 thicknesses of paper to the inch. Applying this number to the Professor's figures, it appears that 14 fat old bacilli end to end would just reach thru a sheet of thin paper, and that 31 spores would do the same. We can realize this; but few minds *can* realize properly two stout figures multiplied together and the product squared or cubed. Page 148.

TRYING TO IMPROVE BEES.

Yes, Mr. Hutchinson, there is a difference in bees; but the grand trouble is that when we once wake up, and try to improve our stock, we throw away good ones, and buy poor ones at a high price. Page 152.

"YORK'S HONEY" VS. "HASTY'S HONEY."

Thanks for the editorial statement of the honey-dealer's side of the marking dissention, I see. Neither boy is to blame for loving the girl; but they can't both have her. And there *must be* some proper and Christian way to decide things. 'Spects it will have to be the old familiar way—the one that *can* get her gets her, and the other must quietly behave himself like a gentleman. I say this in the sad consciousness that the city chap will usually succeed in the contest. She will be "York's 'Honey'" and not "Hasty's 'Honey.'" Old Adam will tempt us to say "York's a liar;" but if his customers don't understand it to mean that York produced the honey, but only that he inspects and indorses it as a first-class article, veracity does not seem to be broken. Page 152.

MILK A SUBSTITUTE FOR POLLEN.

If Dzierzon says sweetened boiled milk is better as a substitute for pollen than meal, probably there is something in it. As an objection, possibly milk-feeding would leave a certain section of the young workers with nothing to do, while meal-feeding would give all work. Page 154.

WAX-WASTE NOT ALWAYS WORTHLESS.

The 9½ pounds of good wax from one pile of slumgum which Comrade McKown realized, reminds us again that "things are not always what they seem." Wax-waste usually *seems* to be worthless; and most of us need to be prodded up often with the facts to the contrary. Page 159.

FACTS ABOUT FRUIT-FERTILIZATION AND BEES.

Mr. Crane's article on fruit-fertilization and its plate (page 162) came somewhat as a surprise to me. I had rather settled down in the belief that fruit (if it grew at all) would be about the same in size and quality self-fertilized as cross-fertilized, only the seeds being affected. It is easy to see that the fruit, growing for the sake of the seeds, *ought to be* better with normal seeds than with blighted ones; but I had got tainted with the idea that the facts were the other way. Facts seem to be all in our line, I'm glad to see.

A REVERSING EXTRACTOR POINT.

Mr. Dadant makes a good point in calling our attention to the fact that an extractor *without any center rod* admits of the combs being turned without being lifted out. Page 163.

PARAFFIN CANDLES AND SQUASH-SEED BAITS.

Paraffin candle better than a lamp for investigating a bee-cellar. Sounds reasonable, Mr. Doolittle. And possibly, too, the squash-seeds are better than hickory-nut meats as baits for the mouse-trap. Not so brittle and liable to get off. Page 163.

THAT COLOR-CARD CRITICISM.

Mr. Muth-Rasmussen, it was you that didn't "catch on" to Hasty, in reference to the color cards. He was talking about the eternal finalities, whether honey *ought to be* graded by the inward color alone; while you were talking business and present usages. Page 164.

A RETRACTED SNEEZE AT THE ASTER.

When a fellow is too free with his gab he must either have a large supply of cheek, or else be prepared to take back his dicta semi-occasionally. Awhile ago I sneezed at the aster and its honey reputation, and especially at the idea that any particularly rank smell in the apiary came from aster. Now comes good authority, W. H. Pridgen, of North Carolina, and confirms the whole thing. Shake, Mr. Schmidt! Did you ever see such a know-it-all in your life?

A plant that will sometimes give a month of surplus storing late in the fall had better not be sneezed at. Page 165.

BLINDLY CONDEMNING GOOD QUEENS.

How unconsciously and amusingly pat a good writer can sometimes be in stating a fundamental truth! (It's Aikin I'm after this time.) On page 165 we read, "I suspect that many a good queen has been condemned blindly because she did not have a good, strong colony, when she was not at fault at all." Why, comrade, if you live to good old age, and keep studying, you will not only suspect that, but be *almost* sure of it.

PERPLEXING FOUL-BROOD PREVENTIVES.

How instructive, and also how natural, is the medication experience of the Colorados! One man used solution of salt and carbolic acid as preventive, and kept bees within a quarter mile of a foul-broody apiary without getting the disease. Naturally he would think his remedy splendid. But then another man kept bees for years near foul brood without getting any. He used nothing at all—and there we are. Page 166.

UNCLE SAM AHEAD AGAIN!

What an absurd idea it is to spend good United States money, and time supposed to be valuable, in getting Apis dorsata, when this peerless country already possesses a bee 117 feet long! On the whole, I am mildly (very mildly) glad that the chap to whom we are indebted for this news didn't get stung. Page 169.

QUESTIONS
AND ANSWERS.
Dr. C.C. MILLER

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Painting Hives Two Colors.

How would it do to paint loose-bottom hives dark on one end and one side, and white on the others, then turn to suit the season? KENTUCKY.

ANSWER.—The plan is worth considering. If I understand rightly, the idea is this: If a hive faces southeast, the front and the side to the southwest would be white for the summer and the other end and side dark. That is, the parts toward the sun would be white so as to reflect the heat of the sun, keeping the hive cooler. Then for winter it would be reverst, still having the entrance face southeast, but the sides toward the sun dark, so as to absorb the sun's rays and make the hive warm. It is just possible that on some days in winter the dark color would make enough difference so that bees would fly when they would not fly with white surfaces to the sun. But in Kentucky do you always want to have bees fly out oftener than they do in a white hive? For as one goes south the line is reacht where the thing desired is to keep bees from flying as much as possible.

◆

A Swarming Experience.

Are there others who ever had this experience? I purchast a box-hive of bees some time ago, transferred them March 8, or rather I took about ⅔ of them from the box and put them into a frame hive. On March 23 the box gave a 4-quart swarm, leaving as many in the box. Of course I took the old queen when I made the transfer, so the balance had no queen, but would rear one in 15 days; but she came out with her full brood, on her wedding-flight, and this must have been on the very day she came forth from her own cell, as 15 days would be her time. I now have (3) good 4 to 5 quart colonies from one box-hive in just 15 days. Every one of them is bringing in honey from early to late. The swarming took place on a rather cool day—a little misty—at 2:30 p.m. The bees are a very large black variety, and as gentle as any bees I ever saw. I do not know what kind they are, being quite different from the rest, or any I have seen in this neighborhood. FLORIDA.

ANSWER.—Under the same circumstances you would probably have the same experience repeated. At any time when bees are gathering, take away from a strong colony the queen and some workers, and if enough bees are left in the hive you may be pretty sure the first queen that emerges will issue with a swarm.

It is not at all certain that the young queen that issued with the swarm issued from her cell the day the swarm issued. For in that case the bees must have chosen an egg if they started a queen-cell any time within two days after the old queen was taken. While I believe that bees prefer to select a larva not more than 2 or 3 days old, I do not believe they prefer an egg; and there was a chance that the young queen in question was two or more days old when the swarm issued.

LATER.—My box-hive just gave out another swarm of about 3½ quarts. This makes 4 colonies from one in just 17 days. Is this not unusual? FLORIDA.

ANSWER.—If bees are left to their own sweet will, it is nothing unusual to have 3 swarms issue within 17 days, and even four or five; but it is probably unusual for a third swarm to be strong enough to have 3½ quarts of bees.

◆

Likely Bee-Paralysis—A Suggested Remedy.

I have 60 colonies of bees, and five of them are diseased as follows: The old bees become bright and shiny with bowels much distended. The younger bees are much swollen and have but little use of themselves. Unhatcht bees that die have pink eyes. Some of the cappings have holes as if they had been bursted by accumulation of gasses inside. The unhatcht dead have no smell or ropiness.

For 3 years I have had from 1 to 5 colonies diseased. I have cremated them heretofore, but now I wish to know the name of the disease and a remedy therefor. Only one colony has ever recovered sufficiently to do any good. Is the disease contagious? and how is it communicated from hive to hive? It seems more fatal in spring or early summer.

Giving diseased colonies young queens has failed to cure. Sprinkling sulphur in the brood-nest seems to abate the disease to some extent. TEXAS.

ANSWER.—It seems to be a case of bee-paralysis. As far south as Texas it gets to be a very serious matter. It would be easy to give a list of remedies that have been vaunted as successful from time to time, but the unfortunate thing about it is that no remedy seems yet to have been discovered that proves effective the next time it is tried, and perhaps the best thing is to try to keep colonies strong and hope the damage may be as little as possible.

I don't really know whether the disease is contagious, nor how it is communicated.

The latest cure I have seen is given in the Australasian Bee-Keeper, and it is claimed a number of bee-keepers have succeeded with it. The cure is as follows: To a pound of honey add ½ ounce of a mixture of one part sulphurous acid with 4 parts tincture of podophyllin. Heat to 90 degrees, and daily spray combs, bees and all. Three to five days' spraying cures. This may be worth trying.

◆

Bran Instead of Chaff for Packing.

I would like to know if bran will do as a substitute for chaff packing to keep the bees warm? MINNESOTA.

ANSWER.—I don't know. I think no one has reported a trial of bran for packing; but I should be afraid it would not keep so dry and sweet as chaff. Mice would probably like it better than chaff.

Dr. Miller's Honey-Queens are offered as premiums, on another page, for sending us new subscribers to the American Bee Journal. The offer is limited to our present regular subscribers, and the queens are to be mailed in rotation, beginning about June 1st, so first come first served. Look up a new subscriber, send in his name with $1.00, and we will enter your order for a Dr. Miller Honey-Queen.

AMERICAN BEE JOURNAL.
ESTABLISHT IN 1861 OLDEST BEE-PAPER IN AMERICA
DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS

PUBLISHT WEEKLY BY
GEORGE W. YORK & COMPANY,
118 Michigan Street, Chicago, Ill.

[Entered at the Post-Office at Chicago as Second-Class Mail-Matter.]

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IMPORTANT NOTICES:

The Subscription Price of this journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "Dec00" on your label shows that it is paid to the end of December, 1900.

Subscription Receipts.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows you that the money has been received and duly credited.

Advertising Rates will be given upon application.

VOL. 40. APRIL 19, 1900. NO. 16

EDITORIAL COMMENTS

NOTE—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

The Langstroth Monument, referred to recently in these columns, will likely be erected before June 1. We have just learned from General Manager Secor that a total of $300 has been raised for the purpose. The one selected is Vermont granite, of very nice proportions, and he feels sure will please the bee-keepers who contributed to it.

We expect to show our readers a picture of the monument after it is in place.

The Chicago Bee-Keepers' Association met Friday afternoon and evening, April 6, as announced. The most prominent bee-keepers present were Dr. C. C. Miller, Ernest R. Root (the president of the National Bee-Keepers' Association), and M. M. Baldridge. There was a fair attendance at the afternoon session, and a goodly number in the evening.

One very enjoyable feature was the supper, which all partook of together around one long table in a near-by restaurant. It seemed more like one large family gathered about the home festal board, and all appeared to approve most heartily of the event, as well as the viands that were so well served, and which disappeared so promptly.

Perhaps the most important action taken at this meeting was the unanimous adoption of a motion that the members of the Chicago Bee-Keepers' Association join the National in a body. This added at once the dues of nearly 40 members to the National, and doubtless at least three-fourths of them are new members, so that the National will not only gain in dollars, but will also have its numbers swelled somewhat.

It is the hope of the Chicago Association that every bee-keeper who resides within its territory (say Cook and adjoining counties) will at once send his dollar to Secretary H. F. Moore, Park Ridge, Ill., and request that he be made a member of both organizations. If it is more convenient, the dollar may be sent to the editor of this journal, who will see that Mr. Moore gets it with proper instructions. A receipt will then be mailed by each association.

The arrangement whereby the members of a local association can become members of the National for 50 cents each, when joining in a body (provided the annual dues of the local society are $1.00), should be the means of increasing the membership in both organizations; and especially should it contribute to an increast interest in the local association. As the writer is mainly responsible for this provision in the new constitution of the National, he naturally desires that it shall prove of much advantage to all concerned, and be used by every local association in the United States. If not mistaken, there are now three local associations that have availed themselves of this new privilege to join the National in a body at half price, viz.: The Wisconsin, the South Dakota, and lastly the Chicago Association.

Co-operation Among Bee-Keepers.—F. E. Brown tells in Gleanings in Bee-Culture how the California bee-keepers are combining to stiffen prices, much in the same way as has already been told of the Colorado association. W. L. Coggshall also urges in the same journal that bee-keepers should combine and fight fire with fire, and shows how combination on the part of purchasers of honey keeps prices down, as follows:

> "I knew from the bee-journals I read that the honey-crop was light all over the country. Therefore, early in the season I wrote several letters to the leading bakeries, offering my honey, buckwheat extracted, at 6 cents f. o. b. What was the result? They all wrote me back, offering me 4¾ delivered, saying they were *restricted* to pay only so much (baker's combination or trust, if you please). I tried the same scheme six weeks later. Well, the bakers had found out that the honey market was higher, and they were willing to pay 5 cents a pound. Mind you, the prices were exactly the same at each bakery, *and they were instructed to pay that and no more.* Combination again."

Ten Percent Honey; 90 Percent Fraud.—The following, referring to New York city, appears in Gleanings in Bee-Culture:

> "There is a new enterprise started on the East Side in which they are adulterating by the carload honey which will granulate in three days. It has the appearance of and tastes very much like honey; has about 10 percent of the pure article in it. Twelve carloads has been turned out in the last 60 days. It sells for 5½ cents per pound."

Editor Root thinks bee-keepers in the East will do well to turn their attention to comb honey rather than to try to compete with this 5½-cent fraud. He thinks the National Bee-Keepers' Association may do something to stop this villainous work, and considers it a matter of economy for every bee-keeper to become a member. In this last opinion he is undoubtedly correct, whatever may be the kind of honey one produces. A drop in the price of extracted honey can not fail to have *some* influence on the price of comb honey. It is not difficult to believe that a sufficient amount of adulteration like that outlined in the foregoing might reduce the price of comb honey a cent on the pound. Suppose it make a difference of only ½ cent a pound. That makes a loss of $1.00 on 200 pounds of honey—enough to pay a year's membership in the National Bee-Keepers' Association. And yet only a comparatively small number have their eyes opened to see that it is a profitable investment to send in that dollar.

Look at what has been done in the past by united action. At the present time the one great foe of bee-keepers is adulteration. The National association can work only as it has "sinews of war." Even with its present small membership it is making itself felt. If you who are not now a member will join, it can do just so much more. Your joining will help to induce others to join. Will you stand idly by, while the battle is being fought, and allow others to pay the cost while you share in the benefits? Is that entirely honorable? True, many honorable men are holding back, but have they correctly weighed what they are doing?

Honey in an Unexpected Place.—Rev. Louis Albert Banks, of Cleveland, Ohio, gave the following incident in the New Voice some time ago:

> In May, 1898, while one of the volunteers from Dover, Maine, was waiting for the government to call the troops to the front, he went out one afternoon and shot some rabbits. On his return a messenger met him in the doorway and told him he must take the next train for the State capital. As his hunting-coat was wet with the blood of the rabbits, he hung it up on a limb of an apple-tree, remarking that it would be well washt by the time he returned from the war. Upon his return he thought he would try his luck partridge-shooting before settling down to farm-work. The canvas coat was hanging from the limb in the orchard; but when he went to put it on he found that it was already occupied by a swarm of bees, which had taken possession of the garment during his absence. With the aid of a sulphur-smudge fire he expelled the bees and secured 22 pounds of delicious white comb honey.

What are the Best Queens Worth? is a question discust by W. A. H. Gilstrap, in Gleanings in Bee-Culture. He thinks some queens that have been mentioned might produce royal progeny that would raise the average yield per colony 40 pounds, and figures that with 100 colonies such a result would pay the interest on more than $200. To the objection that such a queen is a freak, not transmitting her desirable qualities, he replies:

> "Perhaps Messenger was the greatest desirable freak among horses. His desirable qualities have been intensified by judicious breeding until the world wonders at the result."

Mr. Gilstrap bred from a queen that excelled in an apiary of 100 colonies. The result was a gain in surplus of $1.00 and $2.00 per colony, as compared with other colonies. He concludes that the question of hives is a small one compared with the question of stock.

Fool Writers Still Lying.—Mr. E. S. Miles, of Crawford Co., Iowa, sends us the following reprinted in his local newspaper, and credited to the daily New York Mail and Express:

FOOL THE BEES AND THE PEOPLE.

> "People buy comb honey," said a man from the country, "believing that the fact that it is sealed by the honest little bee precludes the possibility of fraud. The fact is, that the bees of many professional 'honey'-raisers do nothing the livelong summer but pack glucose into their hives from an open barrel that is left standing close by. The bee will not search fragrant flowers the livelong day for a trifling amount of pure honey when it can get glucose. The honey-men see that there is plenty of glucose handy, and instead of one pound of pure honey they aid the bees in putting ten pounds of glucose on the market.
>
> "Human ingenuity has not devised a way for making and sealing the honey-comb, or the bee would be dispenst with altogether. In handling the glucose the bees give it a honeyish flavor, and if you complain to the bee-man that it is not as sweet and sticky as it should be, he will tell you that it is the early crop, and that the heavy rains make it thin.
>
> "I know a man who keeps 50 hives of bees on the roof of his store in the city, and by hustling up plenty of glucose he gets enough 'honey' out of the buzzing slaves to do a wholesale business in honey. Why, his bees never saw a flower, and would shy at a honeysuckle if they happened to come near one. He will not even let the poor things have a recess to get a drink of water, but keeps a pan of fresh water near the hives for them to drink."

Accompanying the foregoing clipping were these words by Mr. Miles:

> MR. YORK:—You have publisht in times past some queer information (?) about bees, taken from the general newspaper press; I hand you herewith what I think is entitled to the "belt" as the champion lie of the world about bees and honey. It may have been intended only as a "pleasantry" by the writer, but I guess the average editor (not bee-editors) doesn't know enough to think so.
>
> E. S. MILES.

How any self-respecting newspaper can deliberately publish such falsehoods as are contained in the clipping above is more than we can understand. But ten chances to one, should we undertake to show to the editor of the New York Mail and Express that one of his reporters had been writing what he (the reporter) knew was only a bunch of lies, that editor would only laugh and call it a fine joke.

The awful degeneracy of the modern daily newspapers is something sad to contemplate. They care not for truth or honor, nor the reputations of men or business interests. We know of nothing else that is so much needed, and of which there seems to be such a limited supply, as honest men—absolutely honest and incorruptible.

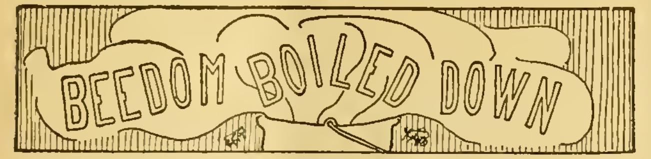
Reformed Spelling has attention in the Inland Printer, which copies approvingly from the Dial an arraignment "of certain eccentric spellings, among which 'thru' and 'program' are typically objectionable examples." That editor takes comfort in the belief that English spelling will not succumb. One smiles at such a belief in the face of the fact that the spelling "programme" is rarely met even now. The Inland Printer will no doubt continue to spell the word with nine letters (at least for a time), and as appropriate company also "labour" and "honour."

Per contra, the same paper copies without hostile comment from Leslie's Weekly an item headed "Common-Sense in Spelling," which closes as follows:

> "Silent letters and fantastic combinations in words impose a useless and wholly unnecessary tax upon the memory and intellect, and they ought to be ruled out of the English language as rapidly as possible. Life is too short and time too precious to be spent in trying to master the absurdities of the spelling-book which have no excuse for existence."

York's Honey Calendar for 1900 is a 16-page pamphlet especially gotten up to create a demand for honey among should-be consumers. The forepart was written by Dr. C. C. Miller, and is devoted to general information concerning honey. The latter part consists of recipes for use in cooking and as a medicine. It will be found to be a very effective helper in working up a home market for honey. We furnish them, postpaid, at these prices: A sample free; 25 copies for 30 cents; 50 for 50 cents; 100 for 90 cents; 250 for $2.00; 500 for $3.50. For 25 cents extra we will print your name and address on the front page, when ordering 100 or more copies at these prices.

Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Upon receipt of $1.00 for your Bee Journal subscription *a full year in advance*, we will mail you a Wood Binder free—if you will mention it.



To Make Close Joints in Wooden Feeders, it is recommended in Leipziger Bienenzeitung to put a strip of blotting-paper between the parts nailed together.

Dead Bees in Cellar-Wintering.—In Gleanings in Bee-Culture J. L. Anderson gives his estimate of the number of dead bees that will be carried from a cellar in which 100 colonies have wintered, at 60 to 90 quarts, or 3-5 to 9-10 of a quart per colony. He says the number of dead bees in the cellar the past winter has been exceptionally small.

Grading by Pictures.—In Gleanings in Bee-Culture is given a picture of the grading adopted by New York bee-keepers. Three sections are shown, showing respectively *the poorest* allowed in the three different grades. None of them have any cells sealed next to the wood. Aside from the cells next the wood, the fancy section has 9 unsealed cells, No. 1 has 43, and No. 2 has 68.

Bosnian Bees are now on the market. Bosnia is in southern Austria, and the bees are described in Schles. Imker as very hardy, making successful cleansing flights at lower temperature than other bees. They begin work earlier and close later than other bees, so reaping larger harvests. The workers are smaller than other bees, and gentler than the gentlest Carniolans. But new things do not always live up to their promises.

A Woman's Plan to Avoid Lifting.—Mrs. A. J. Barber is the woman, and she tells about it in Gleanings in Bee-Culture. A little platform big enough to hold a super has casters under it and is put on the wheelbarrow. On this she puts one or more supers and wheels it to the honey-house, where the little platform can be rolled off the wheelbarrow onto a sort of floor in front of the door so made that no lifting is needed to push it right into the honey-house.

Wintering in a Cave.—John F. Millard reports in Gleanings in Bee-Culture the result of wintering 35 colonies of bees in what he considers the best cave in Iowa, said cave being at no point less than 3 feet under the surface of the soil. On putting colonies into the cave, Nov. 4, 1889, the average weight was 57 31-35 pounds. On taking out, April 4, 1890, the average weight was 47 18-35. Average loss during the 5 months' confinement, 10 13-35 pounds. Smallest loss of any one colony, 6¼ pounds. Greatest loss, 15¼ pounds.

Clipping to Mark the Age of Queens is considered advisable by some, if there were no other object in clipping. Without close watching an unclipt queen may be superseded without the knowledge of the bee-keeper. H. Warnke reported in Centralblatt that he had a queen superseded in winter, the young queen taking her wedding flight Feb. 9. Under ordinary circumstances a queen thus superseded out of the usual season would hardly be supposed to be other than the old queen unless there were some special mark such as clipping.

Evergreens as Windbreaks are considered very valuable, by A. I. Root, as a protection for bees. He says in Gleanings in Bee-Culture:

"I would not get evergreens from the woods, even if they were near by, because you can get transplanted trees grown and trained in the nursery so much better and so much cheaper. Trees a foot high cost only $3.00 per 100. I think our own cost about $5.00 per 100; they were planted about 20 years ago, and are now almost *too* large (40 to 50 feet high, and some of them over a foot thru), if anything. We have tried them at different distances. Only one row is necessary if you let the branches come out clear down to the ground, which they will do in a few years.

"The Norway spruce is very hardy, and a very rapid grower. We have not lost one tree in 100, and these would not have been lost had not water been allowed to stand around their roots. Trees 10 feet apart in the row (as ours are) will make a windbreak for bee-hives rather quicker than if a rod apart; but in a few years, where placed so closely, it will bother you to get thru them if you should happen to want to. One who has not tried it would hardly realize what a difference it makes during a windy time. One can work in comfort when shielded by evergreens, when it would be very tedious if not dangerous to undertake the same kind of work where the wind has full sweep."

Stimulative Feeding is called by the Germans speculative feeding, because it is considered a speculation, and the speculator may lose or gain. Last year Editor Gerstung, of Deutsche Bienenzucht, got the opinions of 15 able German bee-keepers as to stimulative feeding in spring. They were about equally divided as to its being advisable or otherwise. All were agreed that when practiced it should only be with strong colonies, and in regions where the harvest comes early. The feeding should begin about 6 weeks before the harvest, or about the time of gooseberry bloom. All were agreed that injudicious stimulation might do much harm, and that it was a very good thing for beginners to let alone.

Bottom Starters in Sections.—R. C. Aikin says in the Progressive Bee-Keeper:

"Doolittle said no bottom starters for him. Here again comes in location and methods. If you can crowd your colonies in the sections and keep them so, never letting them have much room ahead, nor yet ever without room; and more, if the honey-flow that is to fill these sections comes freely and work goes steadily on to the close of the flow, and not only so, but comes reasonably rapid, say 3 to 5 pounds daily on the average, then a bottom starter is of little use; but take it in slow and intermittent flows, and bottom starters—or their equivalent by having the full sheet come so close to the bottom that it will be fastened there—is a necessity to obtaining the best shipping sections."

Not Stung to Death by Bees.—The statement that a Mr. Carson owed his death to the stings of bees enraged by burning sulphur is thus contradicted in Gleanings in Bee-Culture by G. E. Martin:

"The facts as told me by a brother-in-law of Mr. Carson are these. Mr. Carson went to his apiary before breakfast, to do some work with his bees. He was stung four times—once on the temple, ear, wrist, and thigh. He went to the house and requested his wife to get a veil, as the bees were cross. In a few moments he said he would go outside, as he felt faint. He went out and sat down on the porch and died there. There was no sulphur burned. Mr. Carson had heart-trouble, which, combined with the stings, upon an empty stomach, the doctor says, was the cause of his death."

Perforated Zinc Against Robbers.—Says G. M. Doolittle in American Bee-Keeper:

"Robber-bees do not like to squeeze thru any hole when there are defenders behind such hole or holes ready to seize them while they are squeezing thru, or immediately after they are thru and while squeezing out again. And for this reason a piece of perforated zinc placed at the front of an 'awning' of wood which juts out from one to two inches from the hive in front of the entrance, is an admirable thing to use for the prevention of robbing or to suppress robbing after it has started. As soon as it is placed in front of the entrance, the robbers will all be seen trying to get in where the awning comes up against the hive, rather than out where the perforated metal is; while the loaded robber-bees which are in, and the hive-bees, go out from the perforated metal, and the hive-bees go in there."

The Use of Separators is a topic well considered by R. C. Aikin, in Gleanings in Bee-Culture. For home use, or to sell to families who take a case at a time, there is clearly no need for separators. For the retail trade sections must be nearly of the same weight, and must be so straight that the average grocer's clerk will not set them leaking by lifting them out of a case. In 1889 Mr. Aikin produced 8 tons of section honey so straight and true that not more than 200 of the lot were too bulgy to pack, and he used only two separators in each super of 28 sections. But he has not been able to do the same thing since. Bees, weather, honey-flow, all the conditions must be just right—a thing that may not occur a second time in a lifetime—or separators are indispensable. Even if less honey should be obtained by using separators, a better price will more than repay the loss.

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This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains over 500 pages, being revised by those large, practical bee-keepers, so well-known to all the readers of the American Bee Journal—Chas. Dadant & Son. Each subject is clearly and thoroly explained, so that by following the instructions of this book one cannot fail to be wonderfully helpt on the way to success with bees.

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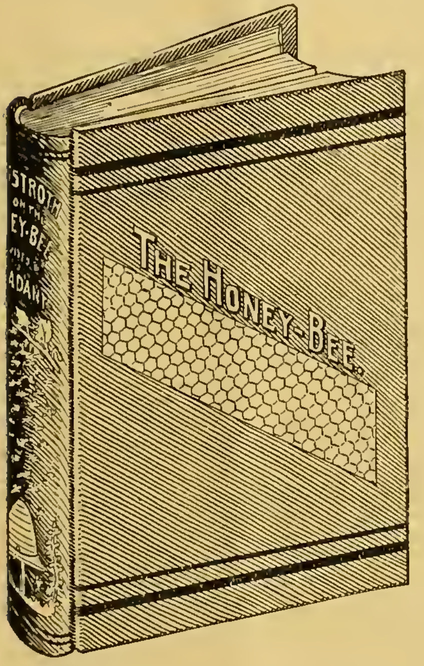
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GENERAL ITEMS

Bees Working Nicely.

I bought 5 colonies of bees last spring, and I went to reading the Bee Journal, and I took so much pride in working with and looking at them that I got the bee-fever, so I bought 12 colonies of four persons that were going away. I now have 18 in all.

I am a carpenter by trade, so I live in town and work at my trade.

My bees are all working nicely, bringing in pollen, except two that are queenless. I have sent for two queens for them.

"KEARNEY."

Buffalo Co., Nebr., April 9.

Spraying Caused Loss of Bees.

Our bees have wintered well, and most of them have plenty of honey to carry them thru the spring. Several springs past our bees died off badly in fruit-bloom time, but last spring they did not. It shortened our honey crop materially. One neighbor said he guest he sprayed them. I can't help thinking it was caused by spraying in fruit-bloom time. One spring there were not bees enough to cover the brood. There were lots of brood and bees just hatching out, but scarcely any that could fly.

MRS. L. C. AXTELL.

Warren Co., Ill., April 2.

Prospects Good—Early Breeding.

We are having some spring weather now, and an abundance of rain. The first pollen I noticed March 10, from maple. The winter loss is light thruout this part of the country, I am glad to report. Most colonies have a small amount of brood now. It is too early to predict anything in the way of a honey crop, but indications are seemingly good. White clover was not hurt, I believe. I want to try some sweet clover this year.

I must call one of Mr. Aikin's statements in question, that is, his article on page 132, concerning early breeding. May be it will do for Colorado, but not for Kentucky. I aim to discourage early breeding as much as possible, as far as Nature will allow. I positively agree with Mr. Doolittle on this point. But localities differ, and we must be governed by them.

Prospects are good for an early spring here. J. WILEY MOUNTJOY.

Anderson Co., Ky.

Rendering Wax—An Experience.

In nearly every copy of the American Bee Journal is an article from some expert bee-keeper, giving his experience and telling what he knows. Now I am going to give my experience and tell what I don't know.

I undertook to render some broken brood-combs, unfinisht sections, and pieces of wax, that had accumulated since last season. I hunted up the article written by Mr. Dadant in regard to rendering wax. I found he used sulphuric acid; but also added a caution about using it. So I decided to let the acid go and try using water.

Then I read where some one said, "Use a little soapsuds in the pan that is to receive the wax, to prevent it sticking." That had always been the difficulty with me—the cake of wax would stick fast to the pan. Then I thought a man's idea of a "little" must mean an inch deep at least, so I boiled up the wax and took pains to strain it thru two thicknesses of cheese-cloth, as last year when I sold my wax Mr. Rauchfuss said I "should strain it; that there were particles of dirt all thru it;" and in order that it might not all stick to the cloth, I

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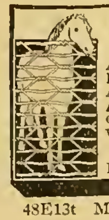

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The colony from the Adel queen you sent me in 1898 gave me 3 supers of honey last summer, tho it was the poorest season here. Other colonies gave only one super, and many gave no surplus at all. MRS. C. A. BALL.

Vernon Centre, N. Y., March 26, 1900.

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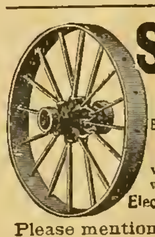

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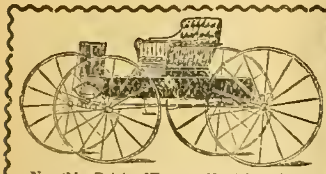

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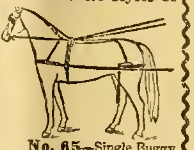

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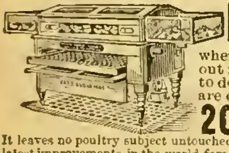

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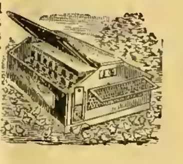

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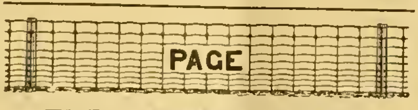

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soapt the cloth also. Now just imagine my surprise when I come to look at my nice cake of yellow wax, to find that it had not hardened, but was a mass of thick, sticky paste! The whole batch was ruined, and I will caution beginners to use no soap, and then they will take no chances on getting too much.

These experts who tell us how to do the work so nicely, failed to tell us how many failures they made while they were learning.

I am glad to add that I didn't melt all my wax at once, and will try to profit by my own experience in rendering the rest. When I read of mistakes others have made (and there are very few who tell of their mistakes) it makes me feel encouraged to know that I am not the only one, and I feel like trying again.

There are a few things in the apiary that I can do successfully, but I can't render beeswax so it is salable.

Now, I imagine if this appeared in the Bee Journal with my address, I would receive circulars from half the supply houses in the United States, recommending their solar wax-extractor; but what could I do with one now, with 6 inches of snow on the ground? Alas, experience comes high, but is a good investment.

I have read with interest the articles from Messrs. Aikin, "Old Grimes," and always am pleased when an article appears from Doolittle or Dadant; and Dr. Miller's answers to questions are a real treat. I often wonder if he has not the patience of Old Job.

Our bees are doing nicely so far, but the next six weeks will be the hardest on bees here. A little later we will try Mr. Aikin's plan of spreading brood, and if successful I will report—and also if I make a failure of it. MRS. EMMA WOODMANSEE.

Arapahoe Co., Colo., April 9.

Securing Increase Without Surplus.

Bee-keepers here had a good season in 1899. The crop averaged 45 pounds to the colony. I have been here since last March.

I have become nearly blind within the last six months, and as I can not get around to buy any colonies that are for sale, I must rely on increasing the few that I have.

I would like to ask Mr. T. F. Bingham, or some other experienced bee-keeper, to give the best way to secure increase without regard to surplus.

The seasons are backward here in the spring on account of the cool, high winds, and the snow on the mountains. The first alfalfa flow is about June 15. There is not much nectar earlier, as during fruit-bloom the winds and cool weather prevent gathering. JAMES ANDERSON.

Montrose Co., Colo.

A Mississippi Report.

I am home again among the bees after spending the winter trapping.

The home apiary of 97 colonies wintered all right, only 4 having died; at the Mt. Zion apiary 4 miles north, 83 colonies, none were dead; at the Concordia apiary of 77 colonies, 9 were dead. The last apiary came thru better than I expected, as it contained all the weak colonies I had last fall. At the Stokes apiary of 61 colonies, 3 were dead.

Bees are booming now, working on box-alder and elm which are in full bloom, also peach and plum trees. I have bought another apiary of 63 colonies which I shall move nearer home as soon as the roads are settled. I have gone out of the queen-business and will work all my bees for extracted honey.

This Delta valley is one of the best honey-districts in America. There is lots of room for bee-keepers, in a first-class location.

Every colony is in a double-story hive, and on full frames of comb, and not a two-year-old queen in any yard except the last one I bought, so I ought to get some honey this season.

I am trying 3 sizes of hives. In the home

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EGGS From Barred PLYMOUTH ROCKS Thorobred, Fine Plumaged Fowls. Farm Raised—75c per dozen.
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apiary I use 9 frame, in the Mt. Zion apiary 10-frame, and in the Concordia and the Stokes apiaries the 8-frame. If all is well I will write again at the end of the season, when I will tell which of the three sizes is best for this locality, and how much honey I secure from each apiary.

I will give my report for 1892 and 1893 as those are the only seasons that I workt all the yard for honey only: In 1892, from 97 colonies I took 4,800 pounds of extracted honey; in 1893, from the same yard of 113 colonies, 5,200 pounds of extracted.

J. H. SIPLE.

Bolivar Co., Miss., March 25.

All Wintered Well.

November 11, 1899, I put 21 colonies into the cellar, and on April 5 I took them out in fine condition; on the 7th they were carrying in pollen. I raised the hives up one inch from the bottom in front. The previous year I did not raise them thus, and lost 3 colonies, and had considerable mold. This spring there was no mold.

I consider the prospect for honey very good. Clover can't be other than in good condition, unless there is a drouth.

There are not many bees kept around me, and tho I am 70 years old I still like to take care of the bees. F. HALL.

Fillmore Co., Minn., April 9.

Bee-Keeping Experience—Bee-Trees

My bees are in good condition so far. We have had a fair winter—not nearly so cold as last winter, with very little snow, and no sleighing.

I am 21 years old. I first kept bees in August, 1890. I was herding a drove of cattle, and while sitting in the shade of a tree I heard a noise, and looking up I saw bees flying in and out. The next day I went to look at it again, and found the tree cut. It was a basswood tree, and in a hollow I found some bees and a little honey. I took the bees home, and in about a month they had stored a nice lot of honey. I took it and let the poor bees starve. Of course I didn't know any better, but thought it was all right to rob them the same as I would a bumble-bees' nest.

In 1897 I caught a swarm about two miles from home, and have kept bees ever since. I find a great many bee-trees, and think that it pays to hunt for them. All of them have been well worth cutting, averaging from 75 to 100 pounds of honey. In 1897 I found five trees, in 1898 six, and in 1899 one.

B. F. SCHMIDT.

Clayton Co., Iowa, March 7.

Wintered in Good Condition.

My bees are in pretty good condition so far. I wintered some outdoors in chaff hives of my own invention—a hive especially adapted to the Jumbo order; I use 13 Langstroth frames and contract in winter with division-boards. E. M. HAYES.

Columbia Co., Wis., April 9.

Honey-Dew and Its Origin.

As the weather is very cold and my 80 colonies of bees are quiet, I will write what I know about the origin of honey-dew in western North Carolina. I have been acquainted with it and its origin for 35 years, and every time it has been produced by an insect of some sort—sometimes a white looking louse at first, then later it has wings and flies away to some other tree where it may lay another lot of eggs. Some of these insects are white, some are dark, and some are a reddish brown. They usually feed on the tender shoots and leaves of the chestnut tree, but the oak and the hickory are not exempt from these honey distillers. They suck the saps from these trees and convert it into sweet nectar, just as the cow does her milk, then the little honey-bee comes along and takes it into the second "still" and carries it to her hive, where she delivers it to one of her sisters for further refinement. This honey-dew is

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This foundation is made by an absolutely non-dipping process, thereby producing a perfectly clear and pliable foundation that retains the odor and color of beeswax, and is free from dirt.

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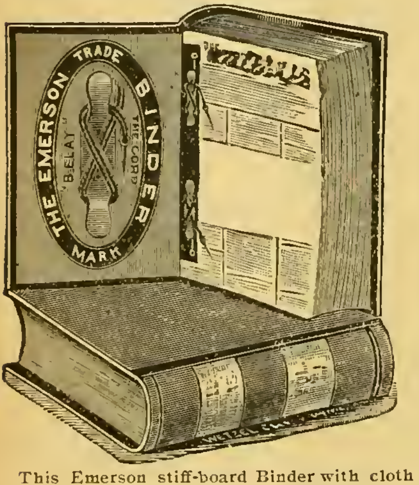

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

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NEW BOOKLETS.

The Chicago, Milwaukee & St. Paul Railway is issuing a series of booklets regarding points of interest along its lines, and if you are interested in the western country, or contemplating a trip, write Geo. H. Heafford, General Passenger Agent, Chicago, Ill., for the special publication desired, enclosing four cents in stamps for postage for each one.

No. 1.—The Pioneer Limited.
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No. 8.—Summer Days in the Lake Country.
No. 9.—Summer Homes, 1900.
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Bees Wanted 10 to 20 strong COLONIES, on STRAIGHT combs, 8 or 10 frame hives. No fancy prices.
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LIGHT BRAHMAS Eggs, $1.50 per 15. 25 YEARS A BREEDER.
Write C. H. Wallace, Homer, Ill.

The Honey Season is close at hand, and I offer 150 COLONIES OF BEES for a short time only at

$3.00 EACH.

Good location; good climate for lung troubles. This is a BARGAIN.

W. C. Gathright, Dona Ana, New Mex.
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The Bee-Keeper's Guide
Or, Manual of the Apiary,
—BY—
PROF. A. J. COOK.

460 Pages—16th (1899) Edition—18th Thousand—$1.25 postpaid.

A description of the book here is quite unnecessary—it is simply the most complete scientific and practical bee-book publisht to-day. Fully illustrated, and all written in the most fascinating style. The author is also too well-known to the whole bee-world to require any introduction. No bee-keeper is fully equipt, or his library complete, without The Bee-Keepers' Guide.

This 16th and latest edition of Prof. Cook's magnificent book of 460 pages, in neat and substantial cloth binding, we propose to GIVE AWAY to our present subscribers, for the work of getting NEW subscribers for the American Bee Journal.

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The following offer is made to PRESENT subscribers only, and no premium is also given to the two NEW subscribers—simply the Bee Journal for one year:

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not any more filthy than the milk of the cow, for it is produced in the same way.

In the year 1898 we had the most copious yield of this sweet I ever saw. There were not bees enough to gather a hundredth part of it, it being dry and warm thru May and June. The first of July the rains set in and destroyed both the sweet and its producers. Some of these insects produce good honey-dew, while others produce bitter stuff.

This is not guess-work, nor what others say—it is what I have seen and know.

A. J. McBride.

Watauga Co., N. C., Feb. 18.

Wintered Without Loss.

I put 12 colonies into the cellar last fall and took them out last week without a loss, but some colonies are quite weak. The temperature varied from 35 to 45 degrees. Some of them have young bees, and all have lots of eggs.

For an experiment I took 3 colonies upstairs over the store, and they came thru in good shape. I gave them a flight in January. I had them confined to the hive with a screen in front for ventilation. The temperature varied a great deal—I don't know how much, but nevertheless they came thru all right.

The prospects are not the best in this location for a good honey season. The white clover I am afraid is frozen out, the same as a year ago. There is no basswood nor sweet clover to speak of. L. J. Beroh.

Dane Co., Wis., April 6.

A Little Bee-Experience.

When only a boy at home in Henry Co., Iowa, we had several colonies of bees in the old-style "gums," and boxes of various kinds and sizes. We got some pretty good honey at times by placing a small box over a hole on top of the hive, but the bulk of it we secured by the robbing system of prying off the cover and cutting out the top part down to the brood, or "taking up" some of the new colonies at the approach of winter.

In the spring of 1876 I came West, and remained almost entirely away from my bees until July, 1897, when, while at work in the field, a swarm of bees past over. I gave a chase, hailing wheat and oats among them, and succeeded in capturing them. I put them in a box 21½ inches long, 17½ inches deep, and 18 inches wide. They did not swarm until June 11, 1898. This was a rousing swarm, and on June 12 another swarm issued, but not so large, tho they filled their 8-frame Langstroth hive and a super besides, and wintered all right; while the prime swarm filled their 8-frame Langstroth hive and a super, but starved out during the winter.

Last summer I took the top off of the hive-box of the old colony, and fit to it a set of slats to support the combs below, the bees attaching the combs to the slats in a few hours. I made the slat work to receive a 10-frame Danzenbaker super. They filled about three supers, and cast a swarm in September that decampt.

I put the bees in a cave the first winter; but since then they have remained on the summer stands. They have an unusual (?) amount of drone-comb; I think I am safe in saying I have killed a half bushel of drones. They were formerly rather dark, but now they are almost as yellow as the golden Italian queen gotten from a queen-breeder in the East. I have somewhere seen it stated that bees become yellower by being inbred, and this colony seems to indicate that the statement is true. I think there are twice as many drones in this one hive as there are in all the other 19 colonies put together, and it seems the chances would favor them in fertilizing queens. I shall try to supersede their queen with one from Dr. C. C. Miller's yard next season, and run them for drones to fertilize as many of the young queens as possible, by keeping drone-comb cut out of the other hives.

I have all the bees in a cave except this big hive and another old-style "gum" I bought from a neighbor, which is 12 inches square and 22 inches high. They are wintering all right so far. Those in the cave are wintering well with the exception of 4 colonies—one in a Danzenbaker 10-frame hive, which had dwindled away to nothing with plenty of white honey; two in 8-frame dovetailed hives, and one in a box-hive with a late after-swarm. One of the colonies in the dovetailed hives was queenless. I had introduced a yellow queen Oct. 3, from an Indiana breeder, and she had left no signs that she had been successfully introduced. The other had a queen from an Iowa breeder, and no amount of coaxing would induce her to lay after Sept. 15, and on examining them on Jan. 18, there were no signs that she had laid any in the meantime, so far as I could observe. I contracted them to 3 frames, covered them up as warm as possible, put them at the top of the tier of hives in the warmest position I could, and left them until Feb. 24. I then ventured to take a peek at them, and to my surprise they were still living. On March 10, 11 and 12 it was very warm and pleasant, and they *all* seemed restless, and with the least ray of light were out on the cave floor. So I set them *all* out in the forenoon of the 10th, and left them out until the forenoon of the 12th, when I put them back. The colony in question was dead.

I have now 13 strong colonies, and 3 which are doubtful. I secured 516 sections of finisht honey, and about 50 unfinisht sections from 8 colonies, spring count, in 1899.

F. W. Hall.

Sioux Co., Iowa, March 19.

Bees Carrying in Pollen.

I put 92 colonies of bees into the cellar last November, and March 19 I took out 90 live colonies; 4 being rather light I united them, making 2 good colonies, so that I have 88 good, strong colonies, and they are as busy now as I ever saw them, carrying in pollen from soft maple. The weather is all that could be desired, being warm and dry without wind. I have my bees well protected by groves, fruit-trees, blackberry and raspberry vines, on a southern slope open to the sun.

P. G. Abbott.

Benton Co., Iowa, April 5.

Methods of Wintering Bees.

My bees have come thru the winter strong, without the loss of a colony. This is my third winter without any loss. I have read all of the books on wintering, and also the experience of hundreds, and the nearer they approach to my plan the more successful they have been. It is safe and sure.

Make your hives like a refrigerator—*insuring dry air circulation*—and the bees will winter in any climate upon the summer stands. Arranged in this manner the dampness from their breath is all carried above, and, coming in contact with the cold air, is condenst, and remains above the bees. When the mercury runs down to 12 degrees above zero and below, this upper chamber will be filled with frost; without this circulating arrangement, with a low thermometer, the hive would be filled with frost, the bees could not go outside the brood-nest, and would perish with plenty of honey. Any hive can be arranged with this dry-air circulation—even a box-hive. Yet a hive arranged or made expressly will give the best results.

Newman, in his "Bees and Honey," page 141, says: "Disguise the fact as we may, until some method for wintering is devised—that is, a method which will prove as safe and certain for a medium weak colony as a strong one; which will at all times give bees access to their stores let them be in what part of the hive they may; that will be as safe in a long inclement winter, etc.—until then, the success attending bee-keeping will be more or less a matter of chance."

With this arrangement I go contrary to the advice of all experts. The "A B C of Bee-Culture" and all others say, leave the hive open one inch at the bottom. I close mine tight, or nearly so, with a storm shed or entrance. What would you think of a man who would build an extra-warm house, make a good fire on a cold day, and then leave an outside door open? This states the case exactly. The bees creating the warmth represent the fire—why not keep it warm? Besides, when you open the hive at the bottom you stop the upward circulation. Try your refrigerator—open the door of the provision-chamber and quickly place your hand under the opening in the ice-box and you can feel the current of air downward, and the current soon ceases on account of the door being open.

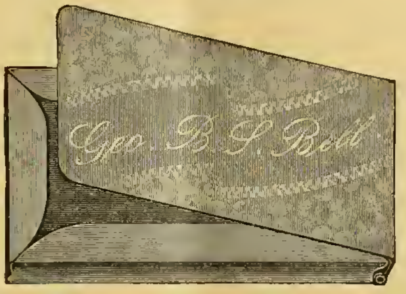
Others advise packing the bees in the fall for winter and then let them *severely alone*. To this I say no, arrange them so that you can examine them at any time during the coldest weather; you know then their exact condition at all times, and they will not be left to starve and die unattended.

D. H. Metcalf.

Calhoun Co., Mich., April 3.

100 Gards and Gard-Gase
——FREE——

We have arranged to mail a neat vest-pocket Aluminum Card-Case with 100 printed Business or Visiting Cards—all for sending us ONE NEW SUBSCRIBER to the American Bee Journal for a year at $1.00. This is indeed a rare offer. You can have anything you wish printed on one side of the card. Your name



alone will be engraved on the Aluminum Case. It is something that everybody ought to have. Be sure to write very plainly what you want printed on the cards, and also the name for the case.

We will mail the cards and case for 50 cents, when wanted without sending a new subscriber, or will club them with the Bee Journal for one year—all for $1.40.

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——MAMMOTH——
White Holland Turkeys
Eggs, $3.00 per 11. BIRDS FOR SALE. Write
MISS E. B. CONKEY, Homer, Ill.
Please mention Bee Journal when writing

Yellow Sweet Clover Seed
WE HAVE IT AT LAST!

We have finally succeeded in getting a SMALL quantity of the seed of the YELLOW variety of sweet clover. This kind blooms from two to four weeks earlier than the common or white variety of sweet clover. It also grows much shorter, only about two feet in hight. It is as much visited by the bees as the white, and usually comes into bloom ahead of white clover and basswood. We offer the seed as a premium

A QUARTER POUND FOR SENDING ONE NEW SUBSCRIPTION.

So long as it lasts, we will mail a quarter pound of the seed to a regular paid-up subscriber who sends us ONE NEW subscriber for the American Bee Journal one year, with $1.00; or ¼ pound by mail for 30 cents.

We have been trying for years to secure this seed, and finally succeeded in getting it. It is new seed, gathered last season by an old personal friend of ours, so we know it is all right. But we have only a small supply. When nearly out we will mention it.

GEORGE W. YORK & CO.,
118 Michigan St., - CHICAGO, ILL.

HONEY AND BEESWAX

MARKET QUOTATIONS.

Chicago, April 9.—There is very little trade in honey of any kind. This is usual at this time of the year, and stocks are well reduced, so that for fancy white comb of the coming crop a good demand should exist. Best white comb now sells at 15@16c, with ambers and dark difficult to dispose of at 3@7c per pound less. Extracted, white, 7½@8c; ambers and dark, 6@7½. Beeswax firm at 28c. R. A. Burnett & Co.

Cincinnati, March 3.—There is some demand for extracted honey from manufacturers at 7@7½c for amber and Southern; clover, 8@8½c. Comb honey is selling firm at 14@16½c in a small way. Beeswax, 25@27c.

C. H. W. Weber,
Successor to Chas. F. Muth & Son and A. Muth.

Boston, March 9.—Our honey market is showing some signs of lower prices, altho the stock on hand is not large. At the same time prices are so much higher than previous years that the trade have taken it very slowly and the results are that the holders are willing to range prices quite a little in order to move stock on hand. Prices range: Fancy white, 17@18c; No. 1, 15@16c; amber, 10@12c; buckwheat almost unsalable. Extracted, best white California, 8½c.

Blake, Scott & Lee.

Kansas City, Mar. 19.—We quote fancy white comb, 15c; No. 1, 14c; No. 1 amber, 13c; No. 2 amber, 13½c. Extracted, white, 8c; amber, 7c; dark, 6c. Beeswax, 22@25c

C. C. Clemons & Co.

Detroit, Feb. 10.—Fancy white comb, 15@16c; No 1, white, 13@14c; fancy amber, 11@12c; dark and undesirable lots, 8@10c. Extracted, white, 7@7½c; amber and dark, 5@6c. Beeswax, 25@26c. Supply of honey fair with light demand.

M. H. Hunt & Son.

Buffalo, March 3.—Market nearly bare of all grades of honey. Probably no more from any source to market, but if so, fancy white comb is firm at 15@16c. Other grades from 14c downward, with the poorest at 8@9c. Fancy pure beeswax continues at 28@30c.

Batterson & Co.

New York, April 9.—Market is practically bare of comb honey of all description. Little lots arrive here and there and sell readily at from 10@11c for buckwheat and 12@15c for white, according to quality and style of package. The market is well supplied with extracted, which we think, however, will be moved before the new crop arrives. Beeswax is in good demand at from 27c to 29c per pound.

Hildreth & Segelken.

San Francisco, Apr. 4.—White comb, 11½@12½c; amber, 8@10c. Extracted, white, 7½@8c. light amber, 7@7½c; amber, 5@5½c; Beeswax, 26@27c.

Very little doing in this line, not only on account of limited demand, but also owing to holdings being too small to admit of anything like wholesale operations. Recent transfers of a small jobbing character are at figures showing values to be practically unchanged.

Omaha, Mar. 13.—Demand shows some improvement in January, having been much more active, but as anticipated there is no advance in prices. Market remains steady at 14@14½c for fancy white comb and 8½c for white extracted. The latter is pretty well cleaned up along the Missouri River, and it looks as if there would be some shortage before another crop comes in. From present appearances there is about enough comb honey to go around at the present prices, hence we look for no particular change in values.

Peycke Bros.

Convention Notices.

Connecticut.—The annual meeting of the Connecticut Bee-Keepers' Association will be held at the Capitol, in Hartford, Wednesday, May 2, 1900. The meeting will be called to order at 10:30 a.m. Mrs. W. E. Riley, Sec.

Waterbury, Conn.

Illinois.—The spring meeting of the eastern part of the Northern Illinois Bee-Keepers' Association will be held at the residence of William Farnham, 4 miles southwest of Rockford, Ill., on Tuesday, May 15, 1900. All are cordially invited. B. Kennedy, Sec.

New Milford, Ill.

We have a Large Stock on hand and can ship promptly.

SEND US YOUR ORDERS FOR

Hives, Extractors

OR ANYTHING YOU WANT IN THE BEE-KEEPING LINE.

WE MAKE ONLY THE BEST.

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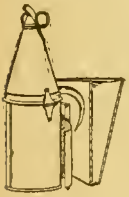
made of sheet-brass which does not rust or burn out should last a life-time. You need one, but



they cost 25 cents more than tin of the same size. The little pen cut shows our brass hinge put on the three larger sizes.

No wonder Bingham's 4-inch Smoke Engine goes without puffing and does not

DROP INKY DROPS.

The perforated steel fire-grate has 381 holes to air the fuel and support the fire.

Prices; Heavy Tin Smoke Engine, four-inch Stove, per mail, $1.50; 3½-inch, $1.10; three-inch, $1.00; 2½-inch, 90 cents; two-inch, 65 cents.

Direct-Draft Perfect
BINGHAM
Bee Smoker

BINGHAM SMOKERS

are the original, and have all the improvements, and have been the STANDARD OF EXCELLENCE for 22 years. Address,

T. F. BINGHAM,
Farwell, Mich.

I ARISE

To say to the readers of the BEE JOURNAL that

DOOLITTLE...

has concluded to sell **QUEENS** in their season during 1900, at the following prices:

1 Untested Queen ..	$1.00
3 Untested Queens..	2.25
1 Tested Queen	1.25
3 Tested Queens....	3.00
1 select tested queen	1.50
3 " " Queens	4.00
Select Tested Queen, last year's rearing .	2.50
Extra selected breeding, the **very best** ..	5.00

Circular free, giving particulars regarding each class of Queens, conditions, etc. Address,

G. M. DOOLITTLE,
11A26t Borodino, Onondaga Co., N. Y.

Please mention Bee Journal when writing Advertisers.

23rd Year Dadant's Foundation. 23rd Year

Why does it sell so well?

Because it has always given better satisfaction than any other.
Because in 23 years there have not been any complaints, but thousands of compliments.

We guarantee satisfaction.

What more can anybody do? **BEAUTY, PURITY, FIRMNESS, No SAGGING, No LOSS. PATENT WEED PROCESS SHEETING.**

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

BEE-KEEPERS' SUPPLIES OF ALL KINDS.

Langstroth on the Honey-Bee, Revised.

The Classic in Bee-Culture—Price, $1.25, by Mail.

Beeswax Wanted at all times.

CHAS. DADANT & SON,
Hamilton, Hancock Co., Ill.

Please mention Bee Journal when writing.

DR. MILLER'S

Honey Queens

One Untested Queen Free as a Premium for sending ONE New Subscriber to the American Bee Journal for one year.

We have been fortunate in making an arrangement with DR. C. C. MILLER—the well-known honey-specialist—to rear queens **EXCLUSIVELY FOR US DURING THE SEASON OF 1900.** These Queens will be mailed in rotation, beginning about June 1, so "first come first served." We are ready to book orders now.

The Queens Dr. Miller will send out on our orders will be precisely the same as those he rears for his own use, so of course they will be from his best stock. His best colony in 1899 had a queen reared in 1898; May 5, 1899, it had brood in 4 frames, and he gave it at that time a frame of brood without bees. It had no other help, but May 25 a frame of brood with adhering bees was taken from it, and the same thing was repeated June 3, leaving it at that time 5 frames of brood. It stored 178 sections of honey, weighing 159 pounds (and that after July 20, in a poor season), being 2⅔ times the average yield of all his colonies. A point of importance is the fact this colony did not swarm, and an inspection every week or 10 days showed that at no time during the entire season was there even so much as an egg in a queen-cell. Dr. Miller expects to rear queens from this one during the coming summer.

The demand nowadays is for **BEES THAT GET THE HONEY** when there is any to get, and Dr. Miller has such bees. You will want to have a queen from his best, we are sure, even if she is not pure Italian.

Do not send any orders to Dr. Miller, as all orders **MUST** come thru us, according to our agreement.

Remember, send us $1.00 for **ONE NEW SUBSCRIBER** to the American Bee Journal for one year, and **YOU** will get ONE OF DR. MILLER'S UNTESTED HONEY-QUEENS FREE AS A PREMIUM. This offer is made *only* to our present regular subscribers. Orders for queens to be filled in rotation, beginning about June 1st.

Address all orders to **GEORGE W. YORK & CO.,**
118 Michigan Street, CHICAGO, ILL.

GEORGE W. YORK, Editor.

AMERICAN BEE JOURNAL.

ESTABLISHT IN 1861 OLDEST BEE-PAPER IN AMERICA

DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS.

40th YEAR. CHICAGO, ILL., APRIL 26, 1900. No. 17.

CONTRIBUTED ARTICLES

A Satisfactory Shed Apiary in Nebraska.

BY WM. STOLLEY.

MANY years ago a picture of my apiary was reproduced in the American Bee Journal, but it was not anything like the most excellent pictures nowadays brought to view in the "Old Reliable."

The photograph of my apiary shown herewith was taken in August, and gives a view from the northwest side. The building shown in the rear is the workshop and honey-house. In front, to the left, is a winter vault with six colonies in the New Heddon hives for comb-honey production. This picture was taken by a friend (a preacher) who visited me at the time, and who brought his camera along. The one with the white vest is the preacher, the lady is his wife, and the other fellow is myself.

The middle section of the shed is 30 feet in length, fronting due east. The right hand wing, also 30 feet in length, fronts somewhat to the northeast, and the left hand wing of 30 feet in length fronts to the southeast.

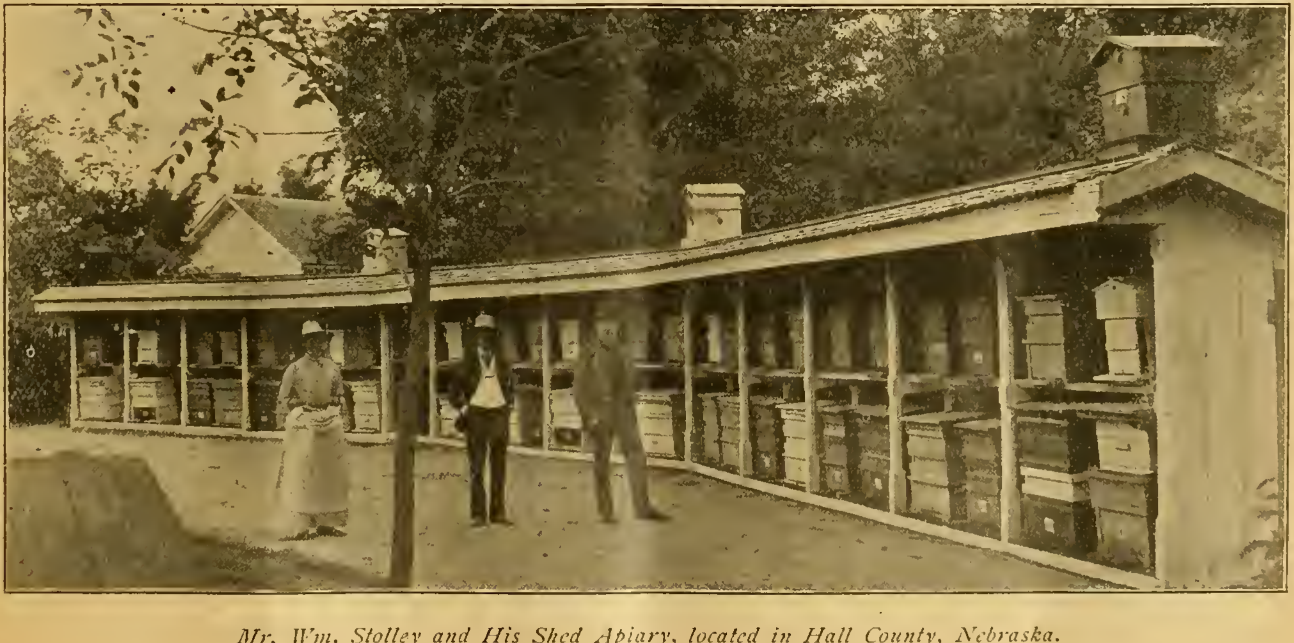
I aim to restrict the number of colonies in my apiary to 30, or even a less number, *which are always in the lower row*. The upper row is manipulated at the proper time for the rearing of queens for my own use only. For this purpose I have single-walled hives carrying only eight combs, while 15 of those in the lower tier carry 11 frames each, and the other 15 have 14 frames each. The combs in the brood-chamber are 11½x11½ inches clear within the frames, and all surplus combs for extracting are half the depth of the brood-combs. All hives are provided with two supers, and everything about them is interchangeable.

The 30 hives occupied by bees, as seen in the lower tier, are double walled, but not chaff packt in summer. All hives are well painted with different colors, and are numbered from 1 to 30, on movable zinc plates.

I never move or change the position of the double-walled hives in the lower tier, and aim to retain queens on their stand as long as they are allowed to do service.

All my queens are kept clipt, and only in exceptional cases do I allow queens to do service longer than two years.

I rear my queens from the four best colonies in the apiary, using two colonies for rearing queens, and two other colonies of different strains for drone rearing. By following up of this method for about 12 years I have improved my stock greatly. Every other year I aim to get new blood



Mr. Wm. Stolley and His Shed Apiary, located in Hall County, Nebraska.

infused, by getting queens from reliable dealers, but they are well tested before they are accepted by me as breeders.

I would buy a few of the best queens obtainable every year if it were not for the fear of thus introducing foul brood into my apiary. All my queens are reared when the colony is under the swarming-impulse, and only choice cells are selected for rearing queens.

The superseding of queens, and the culling out of old queens, are attended to as much as practicable early, and before the closing of the fall honey-flow.

I never extract from the brood-chamber, but after contracting for wintering I preserve all honey-filled combs of the brood-chamber not needed for wintering, by storing them in the empty hives in the tier above, to be returned the following spring wherever needed.

When arranging for winter I contract the brood-chamber to 7 or 8 combs, and give side-packing in all large hives. This is followed up by putting on three cross pieces, answering in effect to the Hill's device, when a clean burlap sheet is spread over all, and a super put on. This done, a good woolen quilt is tuckt down in the super, followed by a bag filled with dry oats-chaff of about five to six inches in thickness, when a cover finishes the packing. In winter I leave the entrance wide open, but fasten to each entrance a strip of lath, arranged so as to prevent mice from getting into the hives.

Two or three times during the winter (on a very warm day, and when the bees are flying) I take out all top packing for drying, and replace it while it is yet warm.

My bee-shed is about 8 feet wide, thus affording a passage in the rear of the row of hives of 4 feet, and the roof in front overlaps 2 feet. Were I to build a new shed, I would give two additional feet in the rear, and thus make the structure 10 feet wide.

The 30 double-walled hives in the lower tier were all hand-made by myself, as long ago as 18 to 20 years, and they are to-day as good as new.

The four hives seen on top of the bee-shed are so-called "cottage hives," and carry the same frame as all the rest of my hives. They were a patent concern 20 years ago, and while they are very good for wintering bees in, they are no good for the production of honey. I have put them on top of the shed as an ornament, and to get rid of them, and also to catch occasionally a runaway swarm.

In front of the apiary, about 20 feet wide, the ground is covered with fine gravel, and is kept entirely clear of weeds and grass; adjoining this is a blue-grass lawn about 36 feet wide, kept well trimmed with a lawn-mower.

The bees have free flights towards the south, east, and northeast, over low-growing shrubbery and black-locust trees. On the west and north a dense artificial park of 30 acres protects the apiary against high winds in winter and early spring.

The workshop and honey-house referred to before is about 30 feet from the right-hand wing of the bee-shed, and is 18x28 feet.

A sun wax-extractor and watering-trough of my own construction, tho not shown in the picture, are usually kept in front of the apiary.

For bee-keeping carried on as a side-issue and hobby I consider a bee-shed, such as I have, a very practical and convenient thing, as well in winter as in summer, and the success I have had with my bees proves it so. Of course, for hundreds of colonies it very likely would be too expensive to build sheds of this kind. Hall Co., Nebr.

Does Mixing Races of Bees Cause Bee-Diarrhea?

BY G. M. DOOLITTLE.

THE following, taken from among my multitude of correspondence, shows a novel idea regarding bee-diarrhea:

> "During the past two or three years I have been purchasing queens from different parties, so that I now have a mixt race of bees, and this winter and spring my bees are having the diarrhea to quite a large extent, while heretofore it was a rare thing that any colony was affected in this way. Therefore, I conclude that mixing the races of bees brings about a state of affairs which tend toward bee-diarrhea. From what I can gather from old bee-keepers years ago, when there were only German bees in this country, bee-diarrhea was a thing not known."

If I mistake not, this idea has been advanced before, but there are some things which stand in the way of such a theory being accepted as truth, and the first is the assertion that years ago when there were only black or German bees in this country, bee-diarrhea was unknown. If any person will turn to pages 287 to 292 of Quinby's "Mysteries of Bee-Keeping Explained," 1865 edition, he will find there a conversation (between Mr. Quinby and a bee-keeper to whom Mr. Q. went with a neighbor, the purpose being that of buying some colonies for the neighbor) which shows that Mr. Quinby was perfectly familiar with what is now called "bee-diarrhea," but then called "dysentery." And this conversation took place before there were even any Italian bees in this country, to say nothing about the Cyprians, Syrians, Carniolans, etc.

No, this is not chargeable to the mixing of the different races of bees, and, in fact, I doubt if chargeable to any one thing more than to the ignorance of the "fathers" regarding the matter of bee-diarrhea, for in that conversation of the man with Mr. Quinby, it is conclusively proven that he (the man) did not know anything about dysentery, altho he had lost heavily from this disease (if it may be so called) the winter before Mr. Quinby's visit to him.

If the disease is any more prevalent now than in the 50's and 60's, the difference could be easily explained thru the fact that the country was more protected then from the fierce winds we now have, by the abundant forests then in existence, but now cut down to give place to the "onward march of civilization."

When I was a boy, and bees were kept by my father, from 40 to 45 years ago, the woods came close around our dwelling, and the bees could fly every time the sun broke thru the clouds, when the mercury reacht 45 degrees or above. But now everything is different; for four times out of five, when the temperature reaches that degree at the present time, during the three winter months and the first one of spring, the wind blows so hard that no good flight can be had, and the little that is done is at a great loss in numbers in comparison to those which fly. And so the bees suffer on, or die, as the case may be, and the cause is ascribed to the mixing of the different races of bees.

From careful watching for the past 25 years I am confident that the trouble known as diarrhea in bees is caused by confinement beyond the endurance of the colony. The trouble is wholly incident to a continuation of weather unsuited for the flight of the bees, and is more a question of frequent flights, or no flights for months in succession, than of a disease. Many things may conspire to shorten or lengthen the struggle for existence, such as bad food, dampness, weak constitution, etc. Any of these may make the struggle short, and the reverse of these may vary all the way from successful wintering to a long, tedious hanging on to a life that ends in "spring dwindling," or a barely building up for another winter, only to try the same thing over again.

With no return of balmy weather, and no chance of voiding the feces outside of the hives, the end must come sooner or later, and for these reasons I do not see how the word "disease" can be made to apply fully to this case.

COMBS FOR EXTRACTING PURPOSES.

A card from one who says he is a reader of the American Bee Journal lies before me, and on it is the following:

> "Which is the best and cheapest way, all things considered, to obtain extra combs for extracting purposes? Heretofore I have workt my apiary for comb honey, so I have no extra combs on hand. I now think of working for extracted honey the coming season."

With the above circumstances I think I should buy comb foundation, putting it into wired frames. I could never make the bees do satisfactory work for me building comb in upper stories, altho I think that where working for comb honey there is greater success in allowing the bees to build their own combs, where an apiary is workt on the swarming plan.

The trouble in trying to have combs built in upper stories lies in the fact that too large a proportion of the comb will be built of the drone size of cells, hence it can not be transferred to the lower story of the hive without producing a host of useless drones as consumers of the honey gathered by the workers.

Looking toward the best results, I would suggest that a few of the stronger colonies be supplied with frames of foundation, two or three weeks before the honey harvest arrives, and fed sugar syrup if you have no inferior honey, feeding quite liberally, so they will work to good advantage drawing out the foundation into combs, and thus you will have some combs to use in the upper stories to alternate with the foundation necessary to fill out the hive. In this way the bees will not have any excuse for idling in waiting for the foundation to be drawn out when the honey-flow is upon them.

For this purpose of feeding to have foundation drawn out, a cheap grade of sugar can be used; and if you have any inferior honey it can be profitably disposed of in this way.

Now allow a word of suggestion: If you have never workt for extracted honey, would it not be well to devote one-half or less of your apiary for that purpose, working the rest for comb honey as formerly? If you have made a success in producing comb honey, it does not certainly prove that you will be equally successful with extracted honey, altho the prospects may point that way. And should you be successful there is a possibility that you may not like this part of bee-keeping as well as the other, therefore it might be the part of discretion to go a little slow until sure that the new enterprise will be just the thing desired. Many a man has rusht into some new thing, devoting his whole time to it, when, at the end of a year or two he has left it at much loss, because he did not stick to his old business, and enter the new gradually until he became satisfied that the new was more to his profit and liking than the old.

Onondaga Co., N. Y.

Winter Temperature of a Bee-Cave in Manitoba —Making Straw Skeps or Hives.

BY J. GATLEY.

I OFTEN wonder why bee-writers maintain that it is necessary to keep a bee-cellar at 40 to 45 degrees. Mine never gets above 30 degrees from the middle of November to the middle of March or later. This winter is the warmest for about 10 years, and the temperature has been from 20 to 28 degrees, one day up to 30, and the bees all doing well. Last winter it was from 14 to 28 degrees, and every colony (28 of them) came thru all right, with no dysentery.

Last year some one askt how to make a straw skep or hive, so I enclose instructions with illustration.

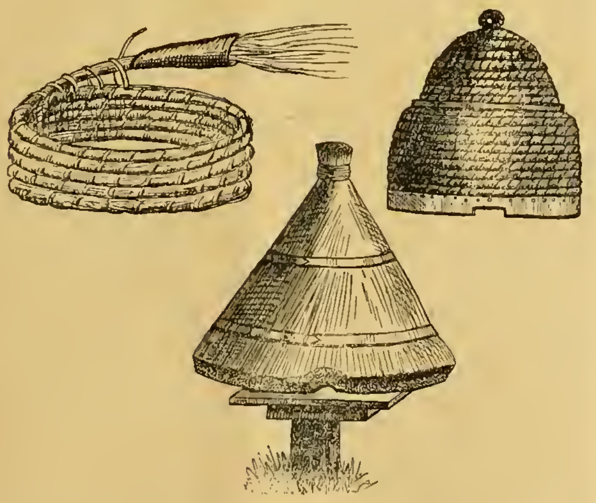
Manitoba, Canada, Feb. 26.

[The straw skep or hive matter referred to by Mr. Gatley is as follows, having been taken from some book on bee-keeping.—EDITOR.]

THE IMPROVED STRAW HIVE.

This is the best form of straw hive that can be used; it is made flat on the top, with hole in center, to receive a super. A rim of wood is workt on to the bottom of the stock-hive to preserve the straw, which so very soon rots if allowed to come in direct contact with the floor-board.

Straw hives require some cover, and perhaps the common straw-thatch cover is as good as any, as shown in illustration; it should be so made as to fit the hive with or without the super. The great objection to straw hives is their extremely perishable nature, and their disposition to harbor vermin, and also the great difficulty in getting them made sufficiently large in size or correct in shape.



There is little difficulty in making a straw hive, as may be seen by the illustration. Provide yourself with some clean straw, and for this purpose the less it has been bruised the better; also a funnel, something in the shape of a cow's horn, for the purpose of drawing and guaging the straw; lastly, 10 or 15 yards of split cane or split briar, to bind the straw and work one rim to the other, as shown in the illustration. The cane or briar strips are pointed at one end, to enable it to be pusht thru the several bands. A little experience and practice is all that is necessary.

NO. 6.—COMB HONEY PRODUCTION.

About Supers, Separators and Comb Foundation.

BY R. C. AIKIN.

I SHALL not advocate any particular kind of super, for there are many kinds in use, and liked by their owners; but there are a few things about the super that I will insist upon. Provide every super with full separators. Do not tell me *you* can produce nice enough honey without separators. For your own use, and also for your neighbors who come and buy 5, 10 or 20 sections at a time for their use, separators are not of much value; but if you produce for the retail store, separators *are necessary*.

It is common custom for people to buy things by littles, a pound each of coffee, butter, and honey, or at most two or three pounds. To meet this custom you must have even-weight sections, approximately. Not only must they be even weight, but they must not be *bulged* or crooked, protruding beyond the wood. Just as sure as the honey is out beyond the wood, just so surely will some of them be broken and leaking, for even experts in handling honey will damage many when not within the wood. I know that you can have sections so that most of them *can* be cased by putting in the case as they were in the super, but, after they leave *your* hands, about the next fellow that handles them does not so place them, then there is a disgusted retailer or consumer, or both, and you lose trade.

I will tell you when you can get fairly straight sections and when not. You can when you have a colony that does not swarm (or for other reason maintains much strength), and a good honey-flow comes, together with the use of full sheets of foundation. Yes, the strong colony and a good flow will often do it with starters only. It may also be accomplisht by a careful giving of a very few sections at a time, just so the colony is crowded. The prime factor in this is a very free flow, and continuous. Slow, intermittent and light flows are almost sure to give bulged sections, and if the colony be weak, or the weather cool, or the work should by any cause be interrupted and start again, you will have irregular combs. Control all these things, and you will have fair success; but you *can not* control all.

Comb honey to be retailed by the piece, or two or three pieces at a time, must be produced between separators. Use separators wide enough to come within ¼ inch of the top and bottom of the sections, *never* narrower than this. Produce sections holding an honest pound, too, but never think you can produce a section that will sell for a certain price—prices are always changing, and you can not produce to sell for *just so much money*—it is a waste of time to try it. A pound, *full pound*, is a small enough piece of honey for anybody to buy, and the talk of a scant weight is all foolishness.

Suppose I have a horse that jumps my pasture fence, shall I break him by building *two* fences, or even three or more? The additional fences are but a practice-ground in which he cultivates his jumping capacity. When we get this light-weight section business simmered down to where it really and truly belongs, it is that the producer, wholesaler or the retailer may get an advantage somewhere. That is the essence of the matter, even if many good and honest men have honestly supported the idea. When we produced full pounds some got to putting out "shorts," thereby getting an advantage over the other fellows.

It is the plainest kind of reason that I can sell ¾ of a pound at a greater profit than you can sell your full pound when we get the same price per case, and if we look into the matter we will find that this is at the bottom of the whole light-weight fad—selfishness pure and simple. I defy any one to come into print and attempt to prove me wrong in this. Where will we stop? Some fellow will drop again to a lower point, and to lower still when the masses have followed, until—until—well, it is all plain. Why cultivate our depravity by seeking methods to take advantage? A square, honest forging thru the mire of corruption is the true principle, not dodging behind some questionable shift.

The use of foundation is somewhat of an evil—a thing to be avoided if we could do so; but like many other things, we may have to put up with it till we can do better. Under some conditions foundation is thinned and workt out by the bees till it is almost like natural comb, but there is a whole lot left so that the foundation base is very noticeable. I suspect that even natural comb varies considerable, owing to conditions; but there is quite a difference between wax as it comes fresh from the bee and that which has been melted and workt. The fresh product is more of a light, loose, flaky nature, the melted wax more compact and close-grained. The more the bee *works over* the wax of the foundation the more it is like the original, yet never wholly like it.

But can we avoid the foundation? Let your thoughts go back to what I have said about necessity of strong colonies for good section-work. Recall that a weak colony can not always keep up enough heat to properly *manipulate* wax, and that therefore they will of necessity put it into the comb more in chunks. That temperature does affect comb-building is a commonly accepted idea. Think of the effect of bait-combs—a thing generally conceded of great value, particularly in getting the bees into the super. Comb foundation acts much as a bait-comb; a colony having full sheets of foundation will take to supers more freely than if starters only are used. Going to the supers they crowd the brood-chambers less, relieving pressure both of bees and honey. A large force in the super means a better quality of work done, both in good workmanship in comb construction, either new thruout or from foundation.

Since the foundation acts as bait-combs, and so helps in the control of swarming, and in getting better and more super-work, it seems that we will have to sacrifice a little in the quality of our comb honey, and use the full sheets of foundation. Then, too, the shipping qualities of a section are improved by foundation. While the colony may thin foundation—they do usually thin it some—it never is quite so frail as the all-new comb, and also it enables us to get better attachment to the wood, making *much* stronger sections. Full sheets give us a neater finish than can be had with the same strength of colony and flow when new comb is built. It seems, then, that we will have to use foundation.

Bottom starters also should be used, serving two purposes: They secure stronger sections for shipment, and more even filling and weight. This bottom-starter business is like the separator question—it is possible to get good attachments without them, but in unfavorable conditions we are able to get better with them. The thing to recommend for common practice is not that which gives good results under the most favorable conditions, but that which succeeds in ordinary hands and under ordinary or poor conditions. It is poor policy to adopt that which will succeed only in the best of seasons, and in the hands of an expert. That which will do well in an average season will do proportionately better in the good years.

Another thing about the super is important, and that is, that it shall be covered with a bee-space above the sections. With those weak colonies that will store only a very few pounds in sections, a quilt held down *tight* on top of the sections will do; but where supers are tiered up—and they will and should be with strong colonies in good flows—there should always be a space above the sections as below them, for a quilt laid on with its own weight only will be pusht up, and propolis put in around the openings on top of the sections, till it is a perfect nuisance.

Pull the quilt from the top of a super and put another super over it without cleaning the propolis from it, and the bees will smear the stuff over the section tops and on comb-surfaces and make a bad muss. Have a space in the super top and cover with a board. Larimer Co., Colo.

Laying Workers—How to Get Rid of Them.

BY F. A. SNELL.

LAYING workers are occasionally found in colonies that have been queenless for some time, or until the numbers are much reduced. These workers are capable of laying eggs that will produce drones only. The eggs and the developing drones are cared for with a full degree of tenderness by the bees, and they seem to be satisfied with their condition. This fact has rendered these laying workers a great nuisance and annoyance to bee-keepers new in the pursuit, especially. Many a valuable queen has been sacrificed by their owner in an effort to requeen such colonies, or, more properly, remnants of such.

The trouble with many apiarists has been realized that the bees are so devoted to the laying workers that the good queen given is considered an intruder, and is destroyed. Many of us have seen this demonstrated in our earlier years of bee-keeping.

Quite a number of years ago the plan of carrying the bees with their combs some distance from their hives and throwing them from their combs and then returning the combs to the hive was practiced, the bees returning, minus the laying worker, to their hive. It was claimed by the advocates of the plan that the laying workers would not know her way back, and be lost, and that then a queen would be accepted. The plan did not at all times work, from the fact that the laying worker had not forgotten her location since last leaving the hive in search of honey.

The plan I hit upon some years ago was to unite these colonies with nuclei or full colonies having queens and brood. When convenient the bees are united with their combs, the bees being put at all times in the hive with the queen. I like this plan better than shaking the bees from the queenless colony at the hive-entrance of the one having the queen, as some at least will return to their old location; while with the other plan I have noticed none to do so. I have practiced the preferred plan for 20 years or more, and have never lost a queen in so doing, and can recommend it to others whose methods have not proved satisfactory, or to the beginner who has not had experience along this line. This method is very easy, and the work quickly done.

I have advised the plan above outlined to be practiced by bee-keepers I have met that had trouble with other ways, and success has been reported with some at least, as they so informed me. The plan is so easy to follow that I believe about every one who will try can succeed with it.

Some one may argue that the bees in the colony having the laying worker are old, and not of much value—not worth the time spent in saving them. That depends largely upon the time of year and the honey-flow at the time. During early summer and a good bloom one or two quarts of old bees will do a good work, and can, with a few young bees, and even one frame of brood, be built into a strong colony by fall, yes, and sometimes do give some surplus beside. These little things must be lookt after to meet with the best success possible in our pursuit, or any other in fact.

If one has reason to suspect that a colony is queenless, that colony should be examined at the earliest opportunity, and, if found so, do the work advised herein. Queenless colonies should not be allowed to remain such. As they become weak in numbers, they are almost sure to fall a prey to robbers—a thing to be avoided. Robbing thus started by the careless apiarist at once demoralizes an apiary, and may be carried to weaker colonies, nuclei, etc., to the annoyance and loss of their owner.

Carroll Co., Ill.

Management of the Shallow Divisible-Brood-Chamber Box-Hive.

BY C. DAVENPORT.

IN using the hives described in my last article, on page 179, there are different methods to be practiced, depending upon the results sought, as to whether increase is desired at the expense of the surplus crop, or whether the best possible results in surplus are the object regardless of increase. But in running for comb honey, if it is a fair season it is impossible to prevent some increase for the time being, unless such an amount of drawn comb is allowed for the queen to lay in and range around on that a fair crop of section honey is out of the question. If swarming occurs, and at the end of the season it is desired to unite colonies in order to reduce the number to be wintered, on account of these hives possessing the tiering-up feature, it is fully as easy to unite colonies in them with others in the same kind of hives, or with colonies in frame hives, as it would be if all frame hives were used.

Here in the North, with our short season, I think there is no question but what when natural swarms issue, or, what is practically the same thing, when artificial swarms are made on account of colonies getting the swarming fever just before or during the main flow, but what more surplus can be obtained if the working-force is kept together as much as possible, and the queen of the swarm allowed but a limited space during the flow, for here, if a colony swarms it is the swarm we must depend upon for surplus from the white honey-flow, and if running for comb honey we want the surplus in sections instead of in the brood-nest. By limited space I mean one story of a divisible hive, the same size otherwise as the 8-frame hive, but only 6 or 7 inches deep. If more room is allowed where there is but a short flow, it decreases the amount of surplus; it might then, by some, be naturally supposed that if the queen was still more confined the results in surplus would be larger yet, but as a rule my experience has been that such is not the case. A colony that has a strong force of both field and house or nurse bees seems to work more willingly, and accomplishes more and better actual results in comb honey if their queen is allowed about the space mentioned, than when she is confined to less room, or caged.

There are a number of methods of keeping or throwing nearly the entire working-force with the swarm, but they are so well known that it is not necessary for me to take space to explain them. I often hive two artificial swarms, and throw most of the working-force of the two colonies into one hive, allowing only one section of these box-hives for a brood-nest, and the number of sections these allied forces will fill in a good season is astonishing; but their force rapidly decreases, so that at the end of the white flow they will often be but a small colony, most of the force having sacrificed their lives in filling super after super of white honey in order to satisfy the greed of their owner, or perhaps a greed of their own.

During the season of 1895 I took off 19 filled supers from one of these shallow brood-chambers. It was the product of three swarms—two were hived together, and another put in with them some time later. This was all white honey, and not a dozen sections in the lot but what would grade No. 1. That season, however, we had, with one exception, the best white flow that there has been here in my time.

If a range is fully stockt, and it is desired to reduce the number of colonies for winter by uniting, the best time to unite is at the end of the white flow; this gives strong colonies for the fall flow, and if plenty of brood-chamber room is given during this fall flow, it insures strong colonies for winter, and some seasons considerable surplus, when any surplus from the fall flow is secured here. I invariably get much more when I unite at the close of the white harvest, if (which is usually the case) I have enough colonies in one yard to stock fully its range. This is owing to the reason that here a range well stockt during the forepart of the season will be somewhat overstockt during the fall flow even with the same number of colonies.

But if increase is desired when using these hives in localities where there is a fall flow, another section can be added to the brood-chamber at the close of the white flow. My practice with these hives usually is to unite at the close of the white harvest what bees there are left in each section, with the weakest colonies in frame hives, and then any honey these shallow hives may contain is used for fall or spring feeding. The combs are rendered into wax.

Colonies wintered in two sections of these hives are allowed to occupy both sections until the commencement of the main flow, then the section containing the least brood is removed, and surplus cases put on. It is an easy matter to get practically all the bees out of one of these sections.

If I wish to get them out of the upper section the cover is removed, then as many of the bees as will go readily are driven with smoke into the lower story. The upper section is then set on end on top of the lower story, and strong volumes of smoke from a cold-blast smoker are driven between all the combs, and it takes the bees left but a short time to decide to come out. A section can be cleared of bees in this way more quickly and more easily than a frame hive can by taking the frames out and shaking and brushing the bees off. If it is the lower story that is to be cleared it is reverst, or put on top, before beginning operations. The removed sections that contain brood can be profitably used to strengthen weak colonies, if there are any such in the yard, or with a queen and a few bees a new colony can be formed with them.

There are different ways in which the queen in these hives can be found, one of which I will describe. If the hive is in two sections, a good volume of smoke is driven in at the entrance, and at the same time the lower section is rapt with a stick, first on one side then on the other, for a minute or two. This on an average of nine times in ten will drive the queen into the upper story. This upper story is now carefully lifted off, and a queen-excluding honey-board placed over the top of the lower section. (An all-zinc board is much better for this purpose than a wood-zinc.) On top of the queen-excluder an empty super is placed; the removed section is then placed on top of it, and what bees will go are smoked down into the super, where they pass thru the zinc into the lower section. If the queen is not now found on the zinc, the upper section is set on end on top of the super, and such a volume of cold-blast smoke is driven between the combs that the bees crawl out and are brusht down into the super below. If the queen can not now be found on top of the zinc, the lower story is set to one side, bottom-board and all, and the upper story set in its place on a new bottom-board, the queen-excluder and super placed on top, and the lower story treated the same as the upper one was, when, if the queen can not be found on the zinc, she must have fallen off while the sections were being handled, and, if care has been taken not to step on her, she will be found near with a small cluster of bees, for there is no danger of her taking wing unless the colony was just about ready to swarm. If a colony is in only one section, an empty one is placed under it, and the one then treated as the upper one was.

Some may think that if the queen was not readily found so that the full operation described had to be performed, so much smoke as it would subject the bees to might injure them. There is no danger whatever of this if a cold-blast smoke is used; on the contrary, I have often thought that a colony workt with more vim and energy after a thoro overhauling with cold smoke. Unless care is used, tho, a colony may be greatly injured with a hot-blast smoker.

Southern Minnesota.

A Defense of the Queen-Breeders.

BY HENRY ALLEY.

ONCE in awhile some bee-keeper who has purchast a queen and has had bad luck in introducing her, and bad luck in other ways, feels like giving vent to his disappointment, and so he sits down and writes to some of the bee-papers and gives the queen-dealer a "blowing up." The purchaser is disappointed in several ways: He expected a large, golden-yellow queen, and, above all, had no idea that his queen would not be accepted by the bees, as he had adopted a method for introducing that some prominent bee-keeper had recommended, and there could be no doubt about the success of the undertaking!

But the queen was received; she was small, dark-colored, and the accompanying bees "were just like hybrids." About the loss in introducing the queen I will say but little. But does a purchaser expect to get a queen-bee whose condition shall be as good when received as when the queen was put into the cage? Just consider for a moment what a hard time those bees have had while they were coopt up in the little box, and being rusht about for a week or more in a mail-bag while the temperature is nearly up to 100 degrees in the shade. Is it not a wonder that the bees are alive? Just think of a mail-bag being grabbed from a crane while an express train is traveling 50 miles an hour! Then, again, how does it affect the bees when a mail-pouch is kickt out the door of a car and the train going at the rate of 40 or more miles an hour? Sometimes the pouch is left at a station in the hot sun while the temperature is 115 degrees in the clear sunshine; and, sometimes, too, the mail-pouch is placed upon the top of an old stage-coach, and is carried for miles into some back town, and all the while Old Sol is doing his best to cook the contents of the pouch.

Well, now, all these things are done all thru the warm season. Some of the people who handle the mail in the cars have lots of fun with the bees they find in the bags, and many queens meet injury and death in that way.

But these things are overlookt by the purchasers of queens, and they accuse the dealer of sending them inferior queens. Does any one for a moment suppose a queen-dealer would put out and knowingly mail an inferior queen? I do not believe it. The reputation of the dealer is at stake. Every queen-dealer is trying to send out queens that will be superior to those sent out by his competitor.

"Handsome is that handsome does." Well, now, queens when in the nuclei of the queen-breeder do look and appear beautiful; in fact, they *are* beautiful, and give promise—so far as one can judge of appearances and all indications that the queen-breeder must judge quality by—of being superior. I always like to have people come to my yard and select their queens. Then the queens can be seen in all their glory. Of course, all who desire to purchase queens can not avail themselves of this suggestion.

Bee-keepers must not be too hasty to accuse the queen-breeder of wrong doing. Be a little charitable, and treat them as you would like to be treated under the same circumstances. Every advertiser of queens stands ready to make good his guarantee, and there is no need of fault-finding until the dealer refuses to do so.

Now a word about rearing queens. I have seen good advice given in the various bee-papers in regard to the proper methods for rearing queens. The latest advice and suggestions come from a man who has reared but a few queens. All the things this man has advised and suggested have been practiced nearly 37 years. They are known to all breeders of queens. They are "up" on all points. Yet they do send out some queens that prove on test to be inferior. They do not knowingly do this thing. The queens, when taken from nuclei, seem all right in all respects. No one is trying to see how poor queens he can rear, but how good. The breeders make every effort to please all. Every precaution is taken to guard against injury or loss of queens in the mails. What more can be done? A good many queens are injured in the mail; but more are ruined by the methods used in introducing them to full colonies.

QUESTIONS AND ANSWERS.
Dr C.C. MILLER

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Colony with Virgin Queen—Introducing Queens.

1. I have 4 colonies of bees wintered outdoors in good shape, but in looking them over I found one colony with a virgin queen just hatcht, and no brood whatever. Did the bees supersede the old queen, or did she die?

2. I have sent for a tested queen of last year's rearing, as there are no drones to fertilize the virgin queen. Shall I kill the virgin queen a couple of days before I introduce the new queen, or shall I kill her at the same time I introduce the new queen? IOWA.

ANSWER.—1. In an ordinary case of superseding, preparations for the rearing of a queen are made while the old queen is doing duty, the old queen continuing to lay until the young queen emerges, and in some cases even longer, one or more queen-cells being constructed in the same manner as when preparations are made for swarming. As you relate the case, there seems to have been no brood in the hive at the time the young queen emerged, so all laying must have stopt with the laying of the egg from which the young queen was reared. This would hardly fall under the head of ordinary supersedure.

2. It may be better to kill the queen a day or two before the introduction of the stranger, altho if introduced in the way instructions are generally given when the queen is sent, the bees being allowed to liberate the queen by eating thru the candy, there would be little risk in killing the virgin at the time the new queen is put in the hive.

* * *

Double-Deck Management—Controlling Swarming.

1. For the benefit of a whole host of readers of the American Bee Journal, will you not please give a detailed account of the management of an apiary on the "double-deck" plan? Also, how you manage to control swarming by placing the queen in a nucleus on the hive? MICH.

ANSWER.—It is by no means an easy thing to tell you about any management that is constantly changing, but I'll try to tell you what I do with two-story hives, which is not a very long story. I use 8-frame hives, and the great desideratum is to get colonies as strong as possible for white clover, which is the first, and about the only thing, upon which I depend for surplus, for I am not in a rich honey region. At no time is a queen allowed to be crowded for room. Whenever there is a danger of that a second story is added. It may be added long before that. For the added story is always put underneath the story with the brood-nest, and it takes away none of the heat of the upper story to have another story under it. On the other hand it would take away a great deal of heat from the brood-nest to have an empty hive placed over it.

This added under story is a nice place to put combs that have a little honey in them, always having a sharp eye on robbers; and wormy combs, or combs in danger of becoming wormy can hardly be in any safer place. When the colony becomes crowded above, it will of its own accord work its way down into the lower story. Sometimes, in order to hurry up matters, a comb of brood is taken from the upper story and put in the lower story, but such a thing is not advisable until there is brood in all the eight frames above. The comb so moved is taken from one side of the upper story, putting a frame from below in its place, thus leaving no gap to be filled above, for putting the comb below is all the spreading they ought to stand.

That's about all that's peculiar to the plan (and there's nothing very peculiar about that) up to the time of putting on supers. I have tried leaving strong colonies with two stories when putting on supers, and one poor season the only colony that workt in a super was a two-story colony, but in general I have not obtained good results by leaving the two stories. So one story is taken away, and a super put on within a few days after I see the very first stray clover blossom. This first blossom appears before the general bloom, and I can generally count that the bees will not begin to store until about 10 days later, and it is well to have a super on 3 or 4 days before it is needed for storing. The first super always has at least one bait-section, and at least that one section is promptly occupied.

At the time of putting on supers, the strongest colonies may have 12, 13, and in very rare cases even 16 frames with brood in them. Eight of the best of these frames are left, the others taken away, of course taking no bees with them. Any colonies that have less than 8 frames of brood are brought up to the 8, and whatever of surplus brood there may be is piled up on some of the weakest colonies, making them 4 or 5 stories high. These can then be used for increase or otherwise as desired. When the supers are taken off, a second story may be given, but in this case it is given above with an excluder between, so that it can be easily taken away before time for cellaring. If the colonies were to be wintered outdoors, very likely each one would have a second story put under upon removal of supers, and the two stories left till the time of putting on supers the next year.

The plan of managing swarms by "putting up" the queen over the hive is a good one where there is any one on hand to watch for swarms, and the queens are clipt, and is given in "A Year Among the Bees," as follows:

"When a swarm issues and returns, it is ready for treatment immediately; altho usually it is put down in my memorandum of work to be done, and the time set for it may be the next day or any time within 5 days, just as suits my convenience. The queen is caged at the time of swarming, and put in the vacant part of the brood-chamber—possibly in the upper part of a super—where the bees can care for her.

"Within the 5 days, I take off the super, and put most of the brood-combs into an empty hive. Indeed, I may take all the brood-combs, for I want in this hive all the combs the colony should have. In the hive left on the stand, I leave or put from one to three frames, generally two. These combs must be sure to have no queen-cells, and may be most safely taken from a young or weak colony having no inclination to swarm. The two combs are put in the south side of the hive, a division-board and dummy next to them, and the supers again put on. If I did not do so at the time of taking out the frames, I now shake off the bees from about half the frames, not being particular to shake them off clean. This hive is then put on the top of the supers, the queen let free on top of the frames, and the hive covered up. A plenty of bees will be left to care for the brood, the queen will commence laying, all thought of swarming is given up, and every queen-cell torn down by the bees. In perhaps two days I take a peep to see if the queen is laying, for it sometimes happens that at the time when I 'put up the queen,' as I call the operation I have just described, there is already a young queen just hatcht, and then the old queen is pretty sure to be destroyed. In this latter case I may remove the young queen and give them a laying one, or I may let the young queen remain.

"In 10 days from the time the swarm issued—sometimes 10 days from the time I 'put up the queen'—I put down the queen. If, by chance, a young queen is in the upper hive, I do not like to put her down until she commences laying and her wing is clipt, for fear of her taking out a swarm. It seems a foolish operation for them to swarm when there is nothing in the hive from which a queen can be reared, but I have had it happen. The operation of putting down is very simple. I lift the hive off the top, place it on the ground, remove the supers, take the hive off the stand, place it on one side, put the hive containing the queen on the stand, and replace the supers. At the time I put up the queen I changed the number-tag, so as to keep the number always on the hive containing the queen.

"You will see that this leaves the queen full chance to lay from the minute she is uncaged, and at the time of putting down there will be as much brood as if the queen had remained in her usual place. Most of the bees, of course, adhered to the lower hive when the queen was put up, but by the time she is put down quite a force has hatcht out, and these have markt the upper hive as their location. Upon this being taken away, the bees, as they return from the field, will settle upon the cover, where their hive was, and form a cluster there; finally an explorer will crawl down to the entrance of the hive below, and a line of march in that direction will be establisht immediately. In a day or two they will go straight to the proper entrance.

"We left, standing on the ground, the hive with its two combs, which had been taken from the stand. These two combs, when the queen was put up, probably had a good quantity of eggs, and brood in all stages. They now contain none but sealed brood, some queen-cells and a pretty heavy supply of pollen. Or, it may be that eggs from an imported queen were given, and the queen-cells are to be saved. A goodly number of bees adhere to the two combs and I know of no nicer way to start a new colony, than simply to place the hive in a new location. Or, the bees may be shaken off at the old stand and the combs used again to do duty as they have done during the last 10 days, or given to a nucleus which needs them.

"It may be objected that this keeping bees queenless for 10 days makes them work with less vigor. I am not sure but it ought, but I must confess I have had no strong proof of it come directly under my own observation. So far as I could tell, these bees seemed to work just as hard when their queen was taken away as before. In the spring of 1885 one colony was, by some means, left entirely away from the proper rows—some 3 rods from any other colony. I took it away, put it in proper line, and left to catch the returning stragglers a hive containing one comb, this comb having no brood and very little if any honey. This colony having been a very weak one, very few bees returned to the old spot, but these few surprised me by filling a good stock of honey in empty comb, before they were put with the rest of the colony.

"Swarms treated on this 'putting up' plan often swarmed again, but if they did they were put up again. An objection to the plan was that these 'put-ups' were in the way and had to be lifted down when anything was done with supers. Still, for any one who allows the bees to swarm, and who does not object to the lifting, the plan is a good one."

Bee-Paralysis.

Can a colony of bees contract the disease known as paralysis from a comb taken from a diseased colony and given to a healthy colony? WISCONSIN.

ANSWER.—I don't know. We seem to know very little about bee-paralysis. But it's a good plan to be on the safe side.

Alfalfa and Cottonwood.

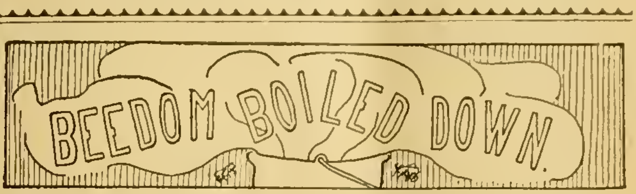
1. Does alfalfa fail to yield nectar where it is irrigated?
2. What would be a fair average when three crops per year are cut?
3. Is cottonwood a good honey-producing tree?

NEW YORK.

ANSWER.—1. I think no one has reported a failure wherever irrigation has been practiced, as is the case in the West. The reports of failure seem to come from places farther east, but whether irrigation or the lack of irrigation has anything to do with failure is a question.

2. I don't know how much honey can be obtained from a given area of alfalfa. That's a hard thing to tell about any honey-plant. Alfalfa is counted a great yielder, but there is no close agreement as to the amount yielded. It has even been estimated that two or three acres are needed for each colony. With three crops of hay taken in a season, much would depend upon the time of the cutting. If cut each time just before the bloom was far enough advanced for the bees to work on it, not much nectar could be expected.

3. I don't know. The fact that little or nothing has been said about it as a honey-tree makes it doubtful whether it has much value. Who can tell us?



"**A Good Feeder.**—An ordinary frame partly enclosed with a board on each side, so as to hold the syrup used in feeding, with a slip of wood floating on the syrup so bees need not drown."—Australian Bee Bulletin.—That's the Doolittle frame-feeder, with a float added, the float not being needed in the least, and sometimes a damage.

Clipping Queens had some discussion in the Ontario convention, as reported in the Canadian Bee Journal. Mr. McKnight said the only advantage of clipping that he could see was to prevent the queen flying away; it did not prevent her being lost. Mr. Hall thought he would have his work greatly increast with unclipt queens. Clipping helps to tell the age of a queen. While working in his shop he may see a swarm out, and he is in no haste to drop his tools and run. He knows the queen is clipt, and sometimes several swarms are out at a time.

Reformed Spelling is a tabooed subject in Gleanings in Bee-Culture, but Dr. Miller gives this parting shot in a stray straw:

"'It cost me several years of close application to spell the old way,'" says Rambler. That's about as strong an argument as I ever saw against the old way. A man with Rambler's heart ought to be willing to suffer a little inconvenience rather than have all future generations work as he and I did to learn to spell. We may just as well own up that the objection to Bro. York's spelling is prejudice pure and simple. His way of spelling 'through' sends a chill *thru* me. But an Englishman has the same chill when he meets 'honor' without a 'u' in it, and will not read a book, much less buy it, if that 'u' is omitted, according to a writer in the Sunday School Times."

Gladiolus and Dahlia are highly recommended in one of the foreign journals as honey-plants. It is somewhat noticeable that these and many other flowering plants are prominently mentioned in bee-journals in other languages, but not mentioned in American bee-papers. Some of these plants are so rich in nectar that it may be seen falling in drops. But there is a good reason for silence regarding them. Take the abutilon, highly valued as a house-plant. Drops of nectar may be seen falling from it so rich that it might be called honey rather than nectar. If one could have an acre of such plants it would mean quite a crop of honey. But the honey obtained would probably not go very far toward purchasing plants for an acre, to say nothing about planting and cultivating. The only wonder is that foreign journals give so much space to such plants.

Starved Brood.—A Canadian bee-keeper had trouble with some kind of dead brood in his colonies. He tried the starvation plan, as for foul brood, and melted up scores of combs, but the trouble still continued. Wm. McEvoy replies to him in the Canadian Bee Journal, urging that it is not always enough to have plenty of honey in the hive, there must be *unsealed* honey. He says:

"Your colonies ran out of unsealed honey when they had a large quantity of brood on hand to feed, and then your bees did not uncap the sealed stores fast enough to keep pace with the amount of brood that required feeding, the result being that considerable brood had to die thru not being fed. And for some time after that the brood would suffer in proportion to the length of time that the brood-nest was out of unsealed stores, and end in an increase of starved brood, which the bees would allow to remain in the combs for some time after the honey-flow commenced. You never would have found one cell of dead brood in any of your colonies if you had kept them well supplied with unsealed stores."

AMERICAN
ESTABLISHED IN 1861 OLDEST BEE-PAPER IN AMERICA
BEE JOURNAL.
DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS

PUBLISHT WEEKLY BY
GEORGE W. YORK & COMPANY,
118 Michigan Street, Chicago, Ill.

[Entered at the Post-Office at Chicago as Second-Class Mail-Matter.]

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IMPORTANT NOTICES:

The Subscription Price of this journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "Dec00" on your label shows that it is paid to the end of December, 1900.

Subscription Receipts.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows you that the money has been received and duly credited.

Advertising Rates will be given upon application.

VOL. 40. APRIL 26, 1900. NO. 17.

EDITORIAL COMMENTS

NOTE—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

The Brosius Pure-Food Bill.—Rev. Emerson T. Abbott, we learn from the St. Joseph (Mo.) Daily Gazette, has been appointed a member of the legislative committee of the National Pure Food and Drug Congress. Mr. Abbott's duties will consist in creating sentiment and bringing influence to bear on the members of the United States congress from Missouri in favor of the Brosius pure-food bill. He was appointed by J. E. Blackburn, president of the Pure Food and Drug Congress, upon the recommendation of Dr. H. W. Wiley, and after consultation with the secretary and assistant secretary of agriculture. Mr. Abbott has been signally honored, and will undoubtedly give a good account of himself, as he is an earnest advocate of pure-food legislation. It is also a splendid thing for honey-producers to have such an able representative, and one of their own number, besides. We trust that Mr. Abbott will have the hearty co-operation of all in his work.

LATER.—Since the foregoing was written we have received a copy of a letter which Mr. Abbott has addrest to the two Missouri members of the Inter-State Commerce Committee, in whose hands the "Brosius Bill" is at the present time:

ST. JOSEPH, MO., April 16, 1900.

MY DEAR SIR:—I have been appointed by the National Pure Food and Drug Congress a member of the Legislative Committee, whose duty it is to look after the interests and urge the passage of the measure which is endorst by the Food Congress, and known as the "Brosius Bill." This bill is now before the committee of which I believe you have the honor to be a member, and I desire to urge upon you the importance of giving it your hearty support, and also the importance of doing what you can to secure an early and favorable report on the same by your committee. It seems to me that the "Brosius Bill" should have the unqualified support of every man who believes in common honesty and the right of a purchaser to get the thing for which he pays his money when he makes a purchase. I do not believe that any one who manufactures or deals in adulterated goods will have the temerity to deny the proposition that when a man pays his money for an article he is entitled to know fully what he is getting in return for his money. This being true, every article of commerce should be plainly and clearly labeled in a manner that will fully explain what it is, and the manufacturer should be held responsible to society and the purchaser if any article does not prove to be in every respect what it claims to be. This is all that the "Brosius Bill" asks, and without any disposition to reflect on other bills now asking for recognition at the hands of the national law-makers, I desire to say that, in my opinion, this is one of its strong points. We are not asking in the "Brosius Bill" that any legitimate industry be destroyed, or even hampered, but only what common honesty between man and man demands.

You will find it necessary to contend with two adverse influences in your attempt to aid this measure in becoming a law, viz.: the opposition of a class of people who think the "Brosius Bill" is not drastic enough, and does not protect "our industry" enough—a selfish motive; and another class of people who want to secure the money of their fellow men by dishonest methods, and therefore are opposed to any kind of pure-food legislation.

As to the first influence, I call your attention to the fact that the "Brosius Bill" has the unqualified endorsement of the National Pure Food and Drug Congress, which, as you are probably aware, is composed of representative men of nearly all of the productive industries of the United States—men who are not influenced by any selfish motives, and who only ask that the present generation, and the generations who are yet to come after them, be protected from fraud and deceit. The bill also has the endorsement of the present Secretary of Agriculture, whose good judgment and disinterested enthusiasm for the peoples' interests along these lines is not questioned by even his political opponents. As to the other opposition, I feel quite sure it will have no influence with you, as I am convinced that you recognize the fact that evil-doers should have nothing to do with shaping the laws of our great nation.

I am sanguine that this bill will have the endorsement of most, if not all, of the congressmen from our State, and that it will have the hearty support of the majority of the members of the House when it comes before them. Therefore, I again urge upon you, in conclusion, the importance of giving your influence to a favorable report by your committee at an early date. Trusting you will give this matter the attention its importance demands, I am, sir,

Very truly yours,
EMERSON TAYLOR ABBOTT,
Member Legislative Committee, National Pure Food and Drug Congress.

It is Mr. Abbott's intention to get a copy of the foregoing letter into the hands of each congressman from Missouri. He feels very certain that if all bee-keepers in the country would take the matter up at once and write a letter something like the one above, to each of their congressmen, the "Brosius Bill" would soon be a law.

If there is any one thing above another that we as bee-keepers should be deeply interested in, it is that of securing and enforcing anti-adulteration laws. Let us all bring every honorable effort and influence possible to bear in this matter, in order that honesty and the right may prevail.

"Bees and Horticulture: Their Relations Mutual" is the title of a 12-page pamphlet just issued by the National Bee-Keepers' Association, and edited by General Manager Eugene Secor, of Forest City, Iowa, from whom a copy may be had free on application.

As stated, "the purpose of the pamphlet is to put into condenst form, for the use of bee-keepers and fruit-growers, such information as is at hand, derived from experience and recent investigations, relating to the economy of nature in plant and insect life, and to show their mutual interdependence."

Extracts are taken from various reliable sources and put into handy form on the value of bees in the pollination of fruit-blossoms, for distribution among those who need to be informed along the lines indicated by the "purpose" of the pamphlet.

The subject of "Spraying Fruit-Trees" is also treated, followed by "Recent Laws on the Subject of Spraying."

It is just such a publication as has long been needed, and we trust every one interested will write Mr. Secor for one or more copies. If not already a member of the National Bee-Keepers' Association, we would advise every one to enclose $1.00 for a year's dues when asking for a copy of the pamphlet referred to.

The Illinois Food Commission.—We called at the offices of the State Food Commission recently, and had an interview with Mr. E. N. Eaton, the State analyst. While they have begun their work to a certain extent, we presume the real test will come after July 1, when the new law takes effect.

In a measure, our Food Commission is exploring new ground, and it is their desire to go carefully but certainly and thoroly. They desire to establish principles that shall govern instead of enumerating specifically. For instance, the following are their

PRINCIPLES GOVERNING COLORING.

Harmless artificial coloring may be used for the sake of variety or uniformity, or in deference to demand of consumers in goods when such coloring is not used to conceal inferiority, to indicate strength, or to imitate a higher priced article.

The fact of artificial coloring need not be markt on the label—

1st. In pure goods of fixt composition. (Example—Mustard, spices.)

2nd. In goods sold under distinguishing names. (Example—Butter.)

3rd In mixtures of indefinite composition sold and known under their own names. (Example—Catsup.)

4th. In goods with establisht standard of strength or quality. (Example—Lemon extract.)

COLORING FORBIDDEN.	MARKT.
Low wine vinegar.	Artificial extracts.
Grain and beer vinegar.	Cider vinegar, if mixt with low wine.
Vanilla extract.	Cherry phosphate.
Extract of vanallin.	Fruit syrup.
Extract of cumarin.	Artificial jellies and jams.
Milk.	Prepared mustard.
Cream.	Canned goods.
Skim cheese.	

COLOR ALLOWED WHEN UNMARKT.

Malt vinegar.
Cider vinegar.
Lemon extract.
Full-cream cheese.
Maple sugar.
Pure jellies and jams.
Celery salt.
Mustard.
Spices.
Butter.
Catsup.
Chow-chow.
Chocolate.
Candy.

Mixtures and compounds are permissible when the cheaper ingredient serves some useful purpose, and is not added simply as a dilutent or cheapener. Examples:

ALLOWED.	FORBIDDEN.
Coffee and chicory.	Mixt maple syrup.
Mixture molasses and syrup.	Mixt maple sugar.
Mixt wheat flour.	Compound cream-of-tartar.
Compound mustard.	"Compound" mixt spices.
Prepared cocoa.	Mixt vinegar.
Compound vanillas.	Diluted milk.
Mixt buckwheat flour.	Diluted lemon extract.

Prepared by E. N. EATON,
State Analyst.

Approved by A. H. JONES,
Illinois Food Commissioner.

The foregoing principles, etc., were originated and approved this month, and so do not appear in the pamphlet issued by the Commission some time ago. They will likely be incorporated in the next edition.

The rule governing honey at present is the following:

> "Honey adulterated with glucose or any other substance not deleterious to health may be sold when labeled 'Adulterated Honey.'"

While this rule may practically prohibit the sale of adulterated honey, we believe that if honey were included in the last list markt "Forbidden," it would be more satisfactory to the general consuming public. There is really no valid reason for adulterating honey, and there is every good reason that its adulteration should be strictly forbidden. Surely, when any one desires to buy honey he wants *honey*—not the adulterated article. If the Food Commission wishes to allow the sale of the mixt article, we would suggest that it be markt or known by some other name—a name that does not contain the word "honey" at all. Then, if a consumer wishes to purchase the cheap mixture he will not ask for "honey," and he will then know he is not getting honey.

We trust the Illinois Food Commission will realize to the fullest extent the great responsibility of their position and work in the interest of the consumers. Already there are insinuations that political jobbery and influence of various kinds may be brought to bear on them, but we want to assure Commissioner A. H. Jones and his assistants that the honey-producers are with them in every honest effort to enforce the anti-adulteration laws of this State, and fully expect to support them until there is some good reason to do otherwise.

The Weekly Budget

THE WORCESTER COUNTY BEE-KEEPERS' ASSOCIATION was organized at Berlin, Mass., April 14, with about 20 members. We wish it success. It should join the National Bee-Keepers' Association in a body at once.

* * * * *

HON. EUGENE SECOR has been appointed judge of the apiarian exhibit at the Iowa State Fair to be held next fall. We believe this is the second notice of this kind we have given about Mr. Secor lately. He seems to be very popular as a judge of bee and honey exhibits. But so long as that popularity is so well deserved, we see no need of objecting.

* * * * *

DR. C. C. MILLER, writing us April 17, closed with this encouraging paragraph, which, tho not about bees, ought to be read with interest by bee-keepers everywhere:

> "Yesterday was election day in Marengo, and there were many hearts anxious as to the result, saloon-keepers not excepted. It was a question which, or whether any, of the three wards would go no license. When the count was made last night it was found all three wards went dry, giving a total majority of 57 against the saloon. So saloons will close business in Marengo after two years rule. Hallelujah!"

Hurrah for Marengo! But what a pity it is that all the temperance men all over this broad land don't get together and wipe out forever the awful curse of the saloon. When they do so unite, the American saloon—canteen and all—will go down everlastingly, and there will then go up from the millions of the rum-curst such a "Glory hallelujah" shout as will set all Heaven ringing. In fact, it will be Heaven to those who have had to endure the terrible misery, and sorrow, and woe, that the demon drink causes. Oh, that the end might come this very year, ere the new century dawns! It might easily be done, if every Christian man would only do his duty.

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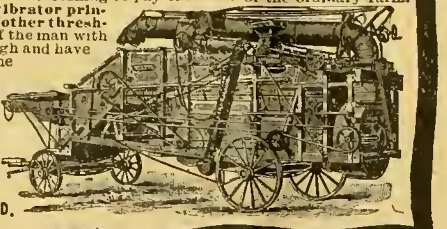

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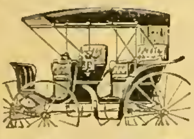

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GENERAL ITEMS

Good Results in Wintering.

We have taken out a part of our bees, and found good results in wintering. Out of 229 colonies that we have removed from winter quarters we found only 10 dead ones. We had to quit taking the bees out on account of a snow-storm, so we have not taken them all out yet.

ADA L. PICKARD.

Richland Co., Wis., April 13.

A Beginner's Report.

I started last spring with 3 colonies and increase to 11. Not having a hive prepared for the last swarm I had to put it into a hive without foundation starters, and it made the comb crosswise of the brood-frames, so I had to kill it. I got 340 pounds of comb honey. As I did not know anything about bees before, I think I did well. The last of November I put 10 colonies into the cellar. I lookt them over in February and found one dead. I don't know what the trouble was, but most of them had left the hive, and there was about 30 pounds of honey in it. I put the 9 colonies out of the cellar April 14, and they seem to be all right.

OSCAR NORDIN.

Barron Co., Wis., April 18.

Many Weak Colonies.

I took the bees out of the cellar the forepart of April—13 colonies dead out of 75 put in, and a good many very weak. But they wintered better than I expected, as they were in very bad condition last fall, owing to being short of honey, and not breeding. I fed rather late and consequently had but few bees in a hive, and they were mostly old ones. I fed 1,000 pounds of granulated sugar last fall for winter stores.

I think I have one of the best bee-cellars in the State, and will describe its construction later on.

Sweet clover is coming up nicely, and we are having a big rain. The temperature is 55° above zero.

FRED C. LEFEVRE.

Adams Co., Nebr., April 16.

Wintered Well—Bees and Fruit.

Bees have wintered very well in this locality. Some of my neighbors have not lost any, and others have lost only a small percent. My loss was 4 colonies out of 84, and those that died were small swarms that issued late last fall. I finisht taking them out of the cellar April 2. I never took them out so late before, but they seemed to be quiet and satisfied in the cellar, which was the best place for them during the cold weather that we had in March. I generally take my bees out about the first of March, and they get pollen from the soft-maple and the white elm about March 15, but this spring everything is late. I noticed the bees bringing in some pollen to-day.

As I wrote some time ago about clover bearing all right in this vicinity, I am pleased to say that it is all right

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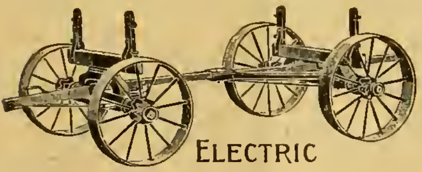

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still. The pastures are lined with white clover, and the meadows around here are thick with alsike—that good old standby. It is the clover for wet land, and I think will grow on high land just as well as red clover, and will stand more cold weather and just as much drouth. We have grown both, side by side, on high clay loam, and find that the alsike holds its own with the red varieties.

I have a neighbor who came to me a few days ago, wanting me to take care of his bees. He bought 5 colonies at a sale, but has never seen the inside of a hive, tho he seemed to know that bees would be a benefit to his orchard. He thought that by having a few colonies he would not only have more fruit but better fruit. I then explained to him what honey was for, and that it was the best thing for his children, his wife and himself.

I think that many more farmers could keep a few bees and have their own honey, and the bees would not hurt their crops but would be an advantage to them. I do not know of anything that is healthier than honey and fruit, and why not have some of both, if we can? JACOB WIRTH.

Henry Co., Ill., April 14.

Colonies Strong in Bees.

My bees are flying nicely to-day. They are carrying in pollen. I feed artificial pollen to build them up for the honey-flow. They seem to be strong in bees this spring.

THEADORE SIMPSON.

Greene Co., Pa., April 16.

Dividing Colonies—Decoy Hives.

I commenced keeping bees last year. There were 20 colonies left in my father's apiary when the yard was cleared up, and I had three of my own at home. I increast his to 46 colonies and mine to 6, making 52 in all. My work was done mostly by dividing, and I think it the best way to handle bees. The honey-flow was light owing to the season.

I find that it is a good thing to have hives put up in trees close by the apiary, as in this way I catch swarms that come off when I am away. I had one colony at home from which I extracted 72 pounds of honey, which I consider pretty good for a dry year. I hope 1900 will be a better honey-year.

I have read the American Bee Journal for some time and like it very much. JOHN C. SILVER.

Seward Co., Nebr., April 13.

Bees Wintered Well.

I put 90 colonies in a shed Dec. 5, 1899, and on April 4 I took 86 out, all in good condition. I also put 90 colonies into the cellar in the fall, and on April 7 I took out 89, all strong and full of bees. All that I did with the bees when putting them into winter quarters was to take the tops off the hives and leave the honey-boards sealed on just as the bees had them, and pile the hives one on top of the other three high. I did not look at them once during the winter. My hives are 14x12 inches, and 14 inches deep. The entrance is 6 inches by ½ inch, with a one-inch hole in the middle of the front that gives them two entrances. The

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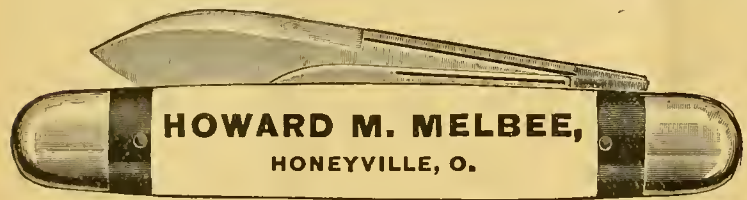

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How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

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back of the hive is movable, so that I can take all the frames from the back of the hive and not lift them out. I can also take out the back and clean the whole hive without interfering much with the bees.

I hope we will have a good season this year. Wm. J. Healy.

Iowa Co., Wis., April 16.

Bees in Fine Condition.

My bees are in fine condition except that they are not breeding very strong on account of the cool, late spring. It is about two weeks late and we had no growing weather until yesterday. We have about 25 or 30 acres of alsike clover for the bees this summer, and we sowed about that much this spring. The last week in January I purchast a few of the Danzenbaker hives in the flat, and had them nailed and painted and bees put into them. I went to a public sale and purchast some bees in large box-hives. The colonies were very strong and had lots of honey. I paid only 90 cents apiece for them. After I got them home I took them into the shop and transferred them into the Danzenbaker hives.

L. A. Hammond.

Washington Co., Md., April 16.

Good Honey-Year Expected.

Our bees came thru the past winter in exceptionally good condition. Of 210 colonies only one became queenless, and the rest are strong in numbers. We look for a good honey-flow the coming season.

In our native country they have a saying:

> "Candlemas Day bright and clear,
> Is a sign of a good honey-year."

It was a good, clear day in this section of the country, and we will see how near the saying will hit the mark.

B. W. Hayck.

Adams Co., Ill., April 16.

Queens the Whole Secret.

I have been amused at times for more than 25 years in reading different views on the production of the best queens; and all this time I have been experimenting how to produce queens that would produce long-lived workers. About 10 years ago I found just how to succeed, and since then I have kept my colonies supplied with queens that produce large, hardy, and long-lived workers. I have tested the longevity of many colonies, by taking from them their queens in September, and find the next June, by giving them queens again, they will become very strong, and after July will do as much honey-gathering as any colonies I have. The whole secret is in the manner queens are reared.

When one has colonies of long-lived workers, the risk of wintering and spring dwindling is almost overcome. By supplying each colony with 40 or more Langstroth *combs*, they will store large quantities of honey when there comes a flow. Let any person examine, and where he finds strong colonies he will find long-lived workers, and just the reverse in weak colonies.

Large, rugged, and prolific queens will also produce the best drones, which I prize very highly. Always in September I remove a few of the queens from colonies that produce the largest and best drones, so as to preserve their drones for fall and spring service when there are no other drones.

I work wholly for extracted honey, and with my bees I want a hive with not less than 40 Langstroth combs, and, when all is right, a good queen will maintain 20 pounds of workers during the honey season, and will not attempt to swarm if upper stories are kept supplied with empty combs. Such colonies will safely pass the winter when chaff cushions are used, even without queens, on the summer stands.

Lucas Co., Iowa. GEO. W. RIKER.

All Wintered in Good Condition.

The weather is fine here this morning. Our bees are in splendid condition this spring. We put 25 colonies into the cellar, and took the same number out. They are all in 10-frame hives. We used plain sections with fences, and like them all right.

We secured 1,530 pounds of comb honey last season from 17 colonies, and had only 3 swarms, but we had the pleasure of capturing 5 "strays." I carried a swarm tied up in a gunny sack eight miles one day in a buggy. It was Aug. 12, and they filled their hive with honey.

CHAS. A. FAIRBANKS.
Jones Co., Iowa, April 14.

Bees in Good Condition.

I put 20 colonies into the cellar under the dwelling-house Nov. 28, and carried out 20 on April 6—all alive and in good condition. The next day was warm and calm, so they went to work carrying in pollen in good earnest.

JOHN CLINE.
Lafayette Co., Wis., April 10.

Backward Season.

The season is very backward this year. Maple trees have not begun to bloom yet. New Jersey seems to be as cold as a bee-convention would be without Dr. Miller. F. G. HERMAN.
Bergen Co., N. J., April 11.

Carrying a Swarm in a Hat.

In the Bee Journal for Sept. 7 I read an article about carrying bees on a bicycle. This reminded me of a little experience I had a few years ago. Soon after I came here to work running a pump, some one told me that there was a runaway swarm on a little tree about a quarter of a mile from the house. So a little later, having time, I concluded to investigate, and found a bunch of about a quart or two on the bush. I lookt towards the house, thinking that it was a long way to make a trip for a box, and wondering what I should do. I then thought of my hat, a small brown felt. I took it off, shook the bees into it, and turned it over and hung it on a sliver of the tree, waiting for the bees to collect that had started up from the shaking. Then I took it by the crown and started home in triumph, with a few bees following on the wing. I hived them, and they made a good colony, and not one offered to sting me while moving them.

Another time I got one about a mile from home. This time I took a box and a man along to help me. It took us a couple of hours, as I had to shake them into the grass to get them off the limb, and we got them all over our legs and arms, but did not get stung. We carried the box between us without taking any pains to make it air-tight, and not a half-dozen bees left while on the road. This last swarm served me for a second start here, as I had been away for 18 months, and the first swarms that issued had disappeared when I came back.

I have three colonies now from last year. I had one swarm this summer, but as the season was bad I lost it.

C. L. GORE.
Tacaticas, Mexico, Sept. 11, 1899.

Wintering Bees.

Last fall I built my second bee-cellar, which I made much larger and handier than the first one. This new cellar is 12x10x6 feet, and I can place nearly 100 colonies in it, tho I have but 40 in it now. I think it is one of the finest in this country.

A few days ago I went down to see how the bees were getting along, and found them wintering nicely, and very quiet. I have swept up about ½ peck of dead bees from the cellar-bottom, which I think is not bad from 40 colonies.

I have 20 colonies in my old cellar, but I can't tell how they are getting along as I have not opened the door since I put them in, tho I hope they are all right. I always try my best to keep colonies strong, and try to have them go into winter quarters with as many young bees as possible and plenty of good honey.

About the middle of September I go over all the hives and take off the fall crop. I weigh every hive and if some don't weigh from 70 to 75 pounds each, without supers, I feed them until they do. I have fixt the bees for winter in this way for about 6 years, keeping the temperature of the cellars as near 42° as possible, and I always have good luck in wintering. I have lost only 3 or 4 colonies in the 6 years. I use the 10-frame dovetailed hive as I like it the best. I generally put the bees out between the first and the middle of April.

Every Saturday when I go to town the first paper I look for is the American Bee Journal. It is a great help to any one who keeps bees, and I would not like to do without it, as I have sometimes found things in it that are worth to me many times its cost for one year. TOFIELD LEHMAN.
Fayette Co., Iowa, March 12.

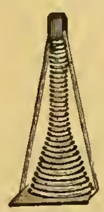
Inky Drops from Smokers.

I have seen several articles in the American Bee Journal about inky drops from smokers, and as I have had no trouble in that way perhaps my method will be of some value to those who have. I use only saltpeter rags and rotten wood. I had some pine trees cut down several years ago, and the stumps have rotted. I take the rotten wood and put it in a cake-pan, breaking it up into small pieces, and put the pan into the oven, leaving it there until the wood is thoroly dried thru, so there can not possibly be any dampness. Then I keep the holes cleaned out on the under side of the smoker fire-box, and in that way I have

$5.00 per month will pay for medical treatment for any reader of the American Bee Journal. This offer is good for 3 months ONLY—from May 1 to Aug. 1. Dr. Peiro makes this special offer to test the virtue of small price for best medical services. Reply AT ONCE.

DR. PEIRO.
34 Central Music Hall, CHICAGO.

Please mention Bee Journal when writing.



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The MONETTE Queen-Clipping Device is a fine thing for use in catching and clipping Queens wings. We mail it for 25 cents; or will send it FREE as a premium for sending us ONE NEW subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,

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The BEST FAMILY TRADE in Honey and Maple Syrup in U. S. A.

Best Clover and Basswood Honey was sold for 25 cents a pound past winter.

Personal introduction given to about 2,000 patrons. Easy terms.

Refer to Editor of American Bee Journal.

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We are distributors for ROOT'S GOODS AT THEIR PRICES for southern Ohio, Indiana, Illinois, West Virginia, Kentucky, and the South.

MUTH'S SQUARE GLASS HONEY-JARS
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NEW C. VON CULIN

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HATCHES EVERY HATCHABLE EGG. Money made and saved. Catalog FREE. Poultryman's Plans, 10c. Address.

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1A17t Please mention the Bee Journal.

Yellow Sweet Clover Seed

WE HAVE IT AT LAST!

We have finally succeeded in getting a SMALL quantity of the seed of the YELLOW variety of sweet clover. This kind blooms from two to four weeks earlier than the common or white variety of sweet clover. It also grows much shorter, only about two feet in hight. It is as much visited by the bees as the white, and usually comes into bloom ahead of white clover and basswood. We offer the seed as a premium

A QUARTER POUND FOR SENDING ONE NEW SUBSCRIPTION.

So long as it lasts, we will mail a quarter pound of the seed to a regular paid-up subscriber who sends us ONE NEW subscriber for the American Bee Journal one year, with $1.00; or ¼ pound by mail for 30 cents.

We have been trying for years to secure this seed, and finally succeeded in getting it. It is new seed, gathered last season by an old personal friend of ours, so we know it is all right. But we have only a small supply. When nearly out we will mention it.

GEORGE W. YORK & CO.,
118 Michigan St., - CHICAGO, ILL.

not had any inky drops since using that kind of fuel.

I have two text-books, but could not think of getting along without the American Bee Journal. There is something fascinating about it. If one of the neighbors brings it to me at bedtime I must see all of the headings and read some of the articles. I don't think Mr. Doolittle is named right, for he *does so much.* I enjoy reading his articles. Then the patience that Dr. Miller has, to answer so many questions, makes me feel that if I can do anything that will benefit any one else I ought to do so.

As the past three years have been poor here, I thought I would try keeping pigeons with the bee-business, so I have commenced with 13. I have had a hard time this winter getting their places ready, and the nests made. I have made 18 nests, and paid only 5 cents in money for one box. I have made it all myself, and have had hard work to get it done. I am not ashamed of it, considering the materials I had, but I think I did pretty well for a woman in her 71st year.

Mrs. Sarah J. Griffith.
Cumberland Co., N. J.

Little Loss in Wintering.

Bees are doing nicely so far. As a rule not over 3 percent are lost. Prospects are good. G. W. Vangundy.
Uintah Co., Utah, April 8.

Prospects Good.

Bees are wintering pretty well. We lost 4 colonies out of 15. The prospects are pretty good. Pussy-willows are beginning to bloom.

Henry Roorda.
Cook Co., Ill., April 13.

Wintering and Springing Bees—Laying Workers.

Altho some claim to have reacht the highest attainments in winter management, the reports of the winter of 1898–99 did not bear out the statement. I do not claim to have reacht perfection by any means, but I think I have a good method of winter management, as I did not lose any colonies in the winter referred to.

The situation of the apiary and the position of the hives are of vital importance to successful wintering. Our apiary is south of the main building, and west of the poultry house. These, of course, shield it from the cold wind. The hives are facing south now, and alternately east and west in summer.

The two main points to consider are, plenty of stores and a tight hive. There need not be so much attention paid to the quality of the stores, and their position in the hive, as we seldom have more than a week or ten days here without a day or two fit for the bees to cleanse themselves. I use a modification of the Hill's device, or a chaff tray over the frames, and a board that will just fill up the space. A hive so packt is equal to a box-hive for wintering.

The colonies in this country, worthy of the name, commence breeding about New Year's. in small dimensions at first, but increasing until in March, the best hives are pretty well filled up with bees. In the latter part of March, or first of April, brood-rearing commences in earnest. At the same time the work for the season commences in earnest.

The first thing to attend to is to see that all colonies have good queens. The next in order is queen-clipping and general hive-cleaning, and putting in foundation. Then comes the big job—putting on the sections. I would not unpack the ends of the frames until settled warm weather.

As I have said above, the best colonies were the ones that breed all the latter part of the winter unhindered. And these *best* colonies are the ones that store the surplus honey; quite different from Mr. Doolittle's bees that store no surplus if they commence breeding before spring. But that is very easily accounted for; Mr. D.'s honey-flow comes in July from basswood, while ours comes from clover in May, and from basswood in July.

We had plenty of laying-worker experience in the apiary last summer. Of course that does not show up very well for the apiarist, but I suppose I may be excused if I have establisht a cure. The case cited came about in this way:

A certain colony became queenless, and we at once ordered a queen. In the meantime I gave the colony a frame of brood to keep, on which they at once started queen-cells that became so nearly ripe that I had to remove them. I failed to give brood of the right stage for queen-rearing. When the queen arrived, and I started to introduce her, I found that laying workers had made their appearance. I was afraid to risk the fine queen in such an abnormal colony, so I got a queen from a very cross colony, and caged her upon the

FREE OX-BLOOD TABLETS for thin blood people. — Nervousness, Indigestion — Rheumatism—Female Disease—Brain Food. A SURE CURE......

This preparation contains in a concentrated form the active principles of healthy bullock's blood combined with the most valuable nerve, brain, blood and flesh producing drugs known to the practicing fraternity.

Greatest discovery of the age for suffering people. Less than a year since first put in use, and thousands are being cured every day. To convince you we give a 3 weeks' treatment free—all we ask is for you to send 10 cents to pay postage on sending it. This is safer than paying a doctor $25 to experiment on you. **3 weeks' treatment sent free on receipt of 10 cts in stamps.** Testimonial:

"I wish to say to you that after many long months of suffering and a broken-down system from the effects of child-bed fever, and at a very large expense with different physicians, and after using 26 bottles of patent medicines and no relief, my husband was compelled to give a mortgage on our home to send me to a hospital, where I still suffered and no relief. I was induced to try your three weeks' treatment of Ox-Blood Tablets and gained so much in the three weeks that I consented to continue the treatment with a 50c box. They have taken all the pain away. I have gained wonderfully in flesh and feel as if I had never been sick a day in my life. I advise all weak women to try Ox-Blood Tablets and get the same results I have." Mrs. F. G. Edwards, Clarinda, Iowa.

50 cts. a box or 6 for $2.50. Address, **W. A. HENDERSON**, Clarinda, Iowa.
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DITTMER'S FOUNDATION Wholesale and Retail

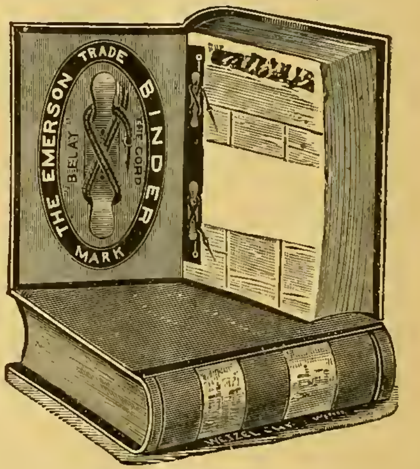
This foundation is made by an absolutely non-dipping process, thereby producing a perfectly clear and pliable foundation that retains the odor and color of beeswax, and is free from dirt.

Working wax into foundation for cash, a specialty. Write for samples and prices.

A full line of Supplies at the very lowest prices, and in any quantity. Best quality and prompt shipment. Send for large, illustrated catalog.

GUS. DITTMER, Augusta, Wis.
Beeswax Wanted.

The Emerson Binder.



This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

GEORGE W YORK & CO.
118 Michigan Street, - CHICAGO, ILL.

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☞ Messrs. B. F. McBurney, Theo. Rockenfeller and B. B. Boyer, formerly connected with the Farmers' Colonization Company, have entered into a limited co-partnership under the firm name of McBurney-Rockenfeller Company, for the control, purchase, and sale of farm lands in the West, Northwest and Southwest. They want good, live, active agents for the sale of their lands in Wisconsin, Minnesota Iowa, North and South Dakota, Arkansas and Southeast Louisiana, and will pay liberal commissions to the right persons. Correspondence should be addrest to the McBurney-Rockenfeller Company, 708 Fisher Building, Chicago, Ill., mentioning the American Bee Journal.

Rocky Mountain Bee-Plant Seed!
(*Cleome integrifolia.*)
...FREE AS A PREMIUM...

The A B C of Bee-Culture says of it: "This is a beautiful plant for the flower-garden, to say nothing of the honey it produces. It grows from two to three feet in hight, and bears large clusters of bright pink flowers. It grows naturally on the Rocky Mountains, and in Colorado, where it is said to furnish large quantities of honey."

We have a few pounds of this Cleome seed, and offer to mail a ¼-pound package as a premium for sending us ONE NEW subscriber to the American Bee Journal, with $1.00; or ¼ pound by mail for 40 cents.

GEORGE W. YORK & CO.
118 Michigan St., CHICAGO, ILL.

comb with a Hutchinson cage. I left her there five days, and in the meantime the laying workers were making good use of their laying authority by filling every cell at their command with from one to six eggs. Some were even daring enough to lay on the comb the queen was on. I had no hope of her ever being received, but I determined to release her, so armed with this determination I went to the hive, lifted the comb the queen was on, and releast her among her rival layers, when lo and behold! she was received loyally, and that was the last of the laying workers.

I notice that Dr. Miller advises uniting a colony so infected with some other one. Now I wish the Doctor, or any other bee-keeper, would try the above plan and report, if they think it worthy of trial. But probably no one else would be so careless as to let laying workers get a hold.

WILLIAM T. STEPHENSON.
Massac Co., Ill.

Honey that Causes Throat-Burning.

In the American Bee Journal Dr. Miller asks what the honey is gathered from that causes a burning sensation in the throat. We call it "hot honey." We have had only one season that the bees gathered it; it was a dry season, and they could not find anything else. It was gathered from milkweed, or snow-on-the-mountain, as some call it. I took a sample of it to the national convention held in St. Joseph, Mo., in October, 1894, and I think most of the members tasted it just before going to dinner. I have some of it on hand now; it has improved a little with age, but is not good yet.

J. T. VAN PETTEN.
Washington Co., Kan.

The Bee-Keeper's Guide
Or, Manual of the Apiary,
—BY—
PROF. A. J. COOK.

460 Pages—16th (1899) Edition—18th Thousand—$1.25 postpaid.

A description of the book here is quite unnecessary—it is simply the most complete scientific and practical bee-book publisht to-day. Fully illustrated, and all written in the most fascinating style. The author is also too well-known to the whole bee-world to require any introduction. No bee-keeper is fully equipt, or his library complete, without THE BEE-KEEPERS' GUIDE.

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George W. York & Co. 118 Mich. St. Chicago.

Bees and Honey, or Management of an Apiary for Pleasure and Profit, by Thomas G. Newman.—It is nicely illustrated, contains 160 pages, beautifully printed in the highest style of the art, and bound in cloth, gold-lettered. Price, in cloth, 75 cents; in paper, 50 cents.

Langstroth on the Honey-Bee, revised by Dadant.—This classic in bee-culture has been entirely re-written, and is fully illustrated. It treats of everything relating to bees and bee-keeping. No apiarian library is complete without this standard work by Rev. L. L. Langstroth—the Father of American Bee-Culture. It has 520 pages, bound in cloth. Price, $1.25.

Bee-Keepers' Guide, or Manual of the Apiary, by Prof. A. J. Cook, of the Michigan Agricultural College.—This book is not only instructive and helpful as a guide in bee-keeping, but is interesting and thoroly practical and scientific. It contains a full delineation of the anatomy and physiology of bees. 460 pages, bound in cloth and fully illustrated. Price, $1.25.

Scientific Queen-Rearing, as Practically Applied, by G. M. Doolittle.—A method by which the very best of queen-bees are reared in perfect accord with Nature's way. Bound in cloth and illustrated. Price, $1.00.

A B C of Bee-Culture, by A. I. Root.—A cyclopædia of 400 pages, describing everything pertaining to the care of the honey-bees. Contains 300 engravings. It was written especially for beginners. Bound in cloth. Price, $1.20.

Advanced Bee-Culture, Its Methods and Management, by W. Z. Hutchinson.—The author of this work is a practical and entertaining writer. You should read his book; 90 pages, bound in paper, and illustrated. Price, 50 cents.

Rational Bee-Keeping, by Dr. John Dzierzon.—This is a translation of his latest German book on bee-culture. It has 350 pages, bound in paper covers, $1.00.

Bienen-Kultur, by Thos. G Newman.—This is a German translation of the principal portion of the book called "Bees and Honey." 100-page pamphlet. Price, 25 cents.

Bienenzucht und Honiggewinnung, nach der neuesten methode (German) by J. F. Eggers.—This book gives the latest and most approved methods of bee-keeping in an easy, comprehensive style, with illustrations to suit the subject. 50 pages, board cover. Price, 50 cents.

Bee-Keeping for Beginners, by Dr. J. P. H. Brown, of Georgia.—A practical and condenst treatise on the honey-bee, giving the best modes of management in order to secure the most profit. 110 pages, bound in paper. Price, 50 cts.

Bee-Keeping for Profit, by Dr. G. L. Tinker.—Revised and enlarged. It details the author's "new system, or how to get the largest yields of comb or extracted honey." 80 pages, illustrated. Price, 25 cents.

Apiary Register, by Thomas G. Newman.—Devotes two pages to a colony. Leather binding. Price, for 50 colonies, $1.00; for 100 colonies, $1.25.

Dr. Howard's Book on Foul Brood.—Gives the McEvoy Treatment and reviews the experiments of others. Price, 25 cents.

Winter Problem in Bee-Keeping, by G. R. Pierce.—Result of 25 years' experience. 30 cts.

Foul Brood Treatment, by Prof. F. R. Cheshire.—Its Cause and Prevention. Price, 10 cts.

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Capons and Caponizing, by Dr. Sawyer, Fanny Field, and others.—Illustrated. All about caponizing fowls, and thus how to make the most money in poultry-raising. 64 pages. Price, 20c.

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Poultry for Market and Poultry for Profit, by Fanny Field.—Tells everything about Poultry Business. 64 pages. Price, 20 cents.

Italian Queens One Dollar Each. Queens from our select stock during May and June, $1.00 each. Orders will be bookt and filled in rotation.
16A4t D. J. BLOCHER, Pearl City, Ill.
Please mention Bee Journal when writing.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, April 19.—Market is well cleared of white comb honey; a little choice has sold recently at 16c, but dark and mixt goods are slow of sale. Extracted, white, 8@9c; amber, 7@8c; dark, 6@7c, according to quality and package. Beeswax in good demand at 28c.

R. A. BURNETT & CO.

CINCINNATI, March 3.—There is some demand for extracted honey from manufacturers at 7@7½c for amber and Southern; clover, 8@8½c. Comb honey is selling firm at 14@16½c in a small way. Beeswax, 25@27c.

C. H. W. WEBER,
Successor to Chas. F. Muth & Son and A. Muth.

BOSTON, March 9.—Our honey market is showing some signs of lower prices, altho the stock on hand is not large. At the same time prices are so much higher than previous years that the trade have taken it very slowly and the results are that the holders are willing to range prices quite a little in order to move stock on hand. Prices range: Fancy white, 17@18c; No. 1, 15@16c; amber, 10@12c; buckwheat almost unsalable. Extracted, best white California, 8½c.

BLAKE, SCOTT & LEE.

KANSAS CITY, Mar. 19.—We quote fancy white comb, 15c; No. 1, 14c; No. 1 amber, 13c; No. 2 amber, 13½c. Extracted, white, 8c; amber, 7c; dark, 6c. Beeswax, 22@25c

C. C. CLEMONS & CO.

DETROIT, Feb. 10.—Fancy white comb, 15@16c; No 1, white, 13@14c; fancy amber, 11@12c; dark and undesirable lots, 8@10c. Extracted, white, 7@7½c; amber and dark, 5@6c. Beeswax, 25@26c. Supply of honey fair with light demand.

M. H. HUNT & SON.

BUFFALO, April 20.—For strictly fancy white one-pound comb honey we are getting 16@17c. Any grade sells high—10@15c, as to grade.

BATTERSON & CO.

NEW YORK, April 9.—Market is practically bare of comb honey of all description. Little lots arrive here and there and sell readily at from 10@11c for buckwheat and 12@15c for white, according to quality and style of package. The market is well supplied with extracted, which we think, however, will be moved before the new crop arrives. Beeswax is in good demand at from 27c to 29c per pound.

HILDRETH & SEGELKEN.

SAN FRANCISCO, Apr. 11.—White comb, 11½@12½c; amber, 8@10c. Extracted, white, 7½@8c. light amber, 7@7½c; amber, 5@5½c; Beeswax, 26@27c.

Stocks of last crop are nearly exhausted, with present business in the same mainly of a light jobbing character at practically same rates as lately current. New crop is expected to put in an appearance in quotable quantity inside of 30 days. The yield north of Tehechapi will be a fair average, but very light south of the point named.

OMAHA, Mar. 13.—Demand shows some improvement in January, having been much more active, but as anticipated there is no advance in prices. Market remains steady at 14@14½c for fancy white comb and 8½c for white extracted. The latter is pretty well cleaned up along the Missouri River, and it looks as if there would be some shortage before another crop comes in. From present appearances there is about enough comb honey to go around at the present prices, hence we look for no particular change in values.

PEYCKE BROS.

Convention Notices.

Connecticut.—The annual meeting of the Connecticut Bee-Keepers' Association will be held at the Capitol, in Hartford, Wednesday, May 2, 1900. The meeting will be called to order at 10:30 a.m.

MRS. W. E. RILEY, Sec.
Waterbury, Conn.

Illinois.—The spring meeting of the eastern part of the Northern Illinois Bee-Keepers' Association will be held at the residence of William Farnham, 4 miles southwest of Rockford, Ill., on Tuesday, May 15, 1900. All are cordially invited.

B. KENNEDY, Sec.
New Milford, Ill.

We have a Large Stock on hand and can ship promptly.

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Hives, Extractors

OR ANYTHING YOU WANT IN THE BEE-KEEPING LINE.

WE MAKE ONLY THE BEST.

Our Falcon Sections and New Process Foundation are ahead of everything, and cost no more than other makes. New Catalog and copy of THE AMERICAN BEE-KEEPER free. Address,

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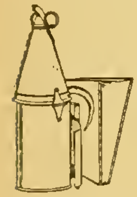
BINGHAM BRASS SMOKERS

made of sheet-brass which does not rust or burn out should last a life-time. You need one, but they cost 25 cents more than tin of the same size. The little pen cut shows our brass hinge put on the three larger sizes.



No wonder Bingham's 4-inch Smoke Engine goes without puffing and does not

DROP INKY DROPS.

The perforated steel fire-grate has 381 holes to air the fuel and support the fire.

Prices; Heavy Tin Smoke Engine, four-inch Stove, per mail, $1.50; 3½-inch, $1.10: three-inch, $1.00; 2½-inch, 90 cents; two-inch, 65 cents.

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BINGHAM
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BINGHAM SMOKERS

are the original, and have all the improvements, and have been the STANDARD OF EXCELLENCE for 22 years. Address,

T. F. BINGHAM,
Farwell, Mich.

I ARISE

To say to the readers of the BEE JOURNAL that

DOOLITTLE...

has concluded to sell QUEENS in their season during 1900, at the following prices:

1 Untested Queen ..	$1.00
3 Untested Queens..	2.25
1 Tested Queen	1.25
3 Tested Queens....	3.00
1 select tested queen	1.50
3 " " Queens	4.00
Select Tested Queen, last year's rearing.	2.50
Extra selected breeding, the very best..	5.00

Circular free, giving particulars regarding each class of Queens, conditions, etc. Address,

G. M. DOOLITTLE,
11A26t Borodino, Onondaga Co., N. Y.

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23rd Year **Dadant's Foundation.** 23rd Year

Why does it sell so well?

Because it has always given better satisfaction than any other.
Because in 23 years there have not been any complaints, but thousands of compliments.

We guarantee satisfaction.

What more can anybody do? BEAUTY, PURITY, FIRMNESS, No SAGGING, No LOSS.
PATENT WEED PROCESS SHEETING.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

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Langstroth on the Honey-Bee, Revised.

The Classic in Bee-Culture—Price, $1.25, by Mail.

Beeswax Wanted at all times.

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Hamilton, Hancock Co., Ill.

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DR. MILLER'S

Honey Queens

One Untested Queen Free as a Premium for sending ONE New Subscriber to the American Bee Journal for one year.

We have been fortunate in making an arrangement with DR. C. C. MILLER—the well-known honey-specialist—to rear queens EXCLUSIVELY FOR US DURING THE SEASON OF 1900. These Queens will be mailed in rotation, beginning about June 1, so "first come first served." We are ready to book orders now.

The Queens Dr. Miller will send out on our orders will be precisely the same as those he rears for his own use, so of course they will be from his best stock. His best colony in 1899 had a queen reared in 1898; May 5, 1899, it had brood in 4 frames, and he gave it at that time a frame of brood without bees. It had no other help, but May 25 a frame of brood with adhering bees was taken from it, and the same thing was repeated June 3, leaving it at that time 5 frames of brood. It stored 178 sections of honey, weighing 159 pounds (and that after July 20, in a poor season), being 2⅔ times the average yield of all his colonies. A point of importance is the fact this colony did not swarm, and an inspection every week or 10 days showed that at no time during the entire season was there even so much as an egg in a queen-cell. Dr. Miller expects to rear queens from this one during the coming summer.

The demand nowadays is for BEES THAT GET THE HONEY when there is any to get, and Dr. Miller has such bees. You will want to have a queen from his best, we are sure, even if she is not pure Italian.

Do not send any orders to Dr. Miller, as all orders MUST come thru us, according to our agreement.

Remember, send us $1.00 for ONE NEW SUBSCRIBER to the American Bee Journal for one year, and YOU will get ONE OF DR. MILLER'S UNTESTED HONEY-QUEENS FREE AS A PREMIUM. This offer is made *only* to our present regular subscribers. Orders for queens to be filled in rotation, beginning about June 1st.

Address all orders to **GEORGE W. YORK & CO.,**
118 Michigan Street, CHICAGO, ILL.

COLL

GEORGE W. YORK, Editor.

AMERICAN BEE JOURNAL.

ESTABLISHT IN 1861 OLDEST BEE-PAPER IN AMERICA

DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS.

40th YEAR. CHICAGO, ILL., MAY 3, 1900. No. 18.

CONTRIBUTED ARTICLES

House-Apiaries—Their Successful Management.

BY B. J. CHRYSOSTOM.

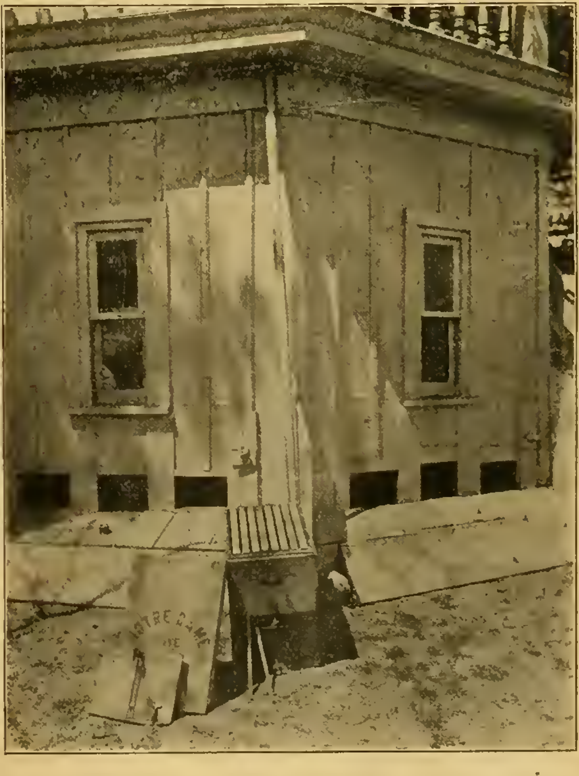
When the reasonable objections have been obviated, and have been substituted by beneficial and substantial improvements, then is the house-apiary destined to come rapidly into favor—not only because of the great convenience it affords, but chiefly on account of the beneficial results obtained by the saving of money, time and labor, the last mentioned being often attended with considerable disagreeable inconvenience.

I am personally acquainted with only two bee-keepers who wintered their bees in cellars. One of them lost every colony one winter, and the other was so severely stung while removing them to the yard that his life was endangered. He is now engaged in other pursuits. These two cases, and the reports appearing from time to time relative to this subject, in periodicals devoted to apiculture and the production of honey, have led me to regard cellar-wintering of bees as a necessary evil consequent on the introduction of the loose-frame hive, which has proven a most destructive invention for bees, especially when it was first introduced. Hence, the object of this article is to give some facts and figures that perhaps may be of benefit to those who may wish to have a better and cheaper method than they at present possess.

Sometimes a small improvement effects a complete change in a whole system. As far as my experimental work has gone in house-apiaries, it has been most satisfactory, and has given good results with comparatively little labor and expense. With a suitable house and a perfect hive, the business is simplified and becomes more agreeable and pleasant.

There is at the University of Notre Dame a bee-house having eight sides—a frame with single walls one inch thick—built without any regard to warmth. It serves its purpose perfectly. It is just large enough to admit three hives to each side, with plenty of room for a low operating or work table in the center, and space on one or two sides for storing away boxes and supplies. It has during six years given entire satisfaction, excepting in one thing, which is that the windows are too small, and are in two sashes. The windows in bee-houses should be large enough to afford plenty of light, and so elevated as to let the light into the hive while operating. It is a great convenience to have the sash all in one piece and hung on four rods, one in each corner, so that it could be easily pusht out enough to let the bees out at the four sides. Bees that leave the hive or the combs while being handled, will settle on the glass and give no further trouble. When the work is finisht in one hive the window may be opened and the bees all disappear instantly. So far as is known not one queen has been lost by entering other than her own hive. As the bees of every three hives fly in from different points of the compass, they are not liable to mistake their respective hives.

The cost of such houses is so small, and their construction so simple, that it requires but little skill to build them. Any one that can build or put up a board fence might succeed in a building of this kind. Hives kept all the time in the dry will last more than a lifetime. There is no warping of hives and covers; in fact, the covers can be dispenst with and substituted with a strip of burlap and a mat of some kind to retain the heat of the bees. This in the hot season may also be laid aside. I simply mention these small matters, not altogether for their recommendation, but chiefly as hints, which, after mature deliberation, the reader may or may not think fit to adopt—for what may succeed well with one may not do so well with another. After all, technicalities are not so important. Principles are more to be taken account of in questions of house-apiaries and hives. Is it not better for hives and bees to be kept at all



A View of a Portion of the House-Apiary.

times in the dry and shade than to have them exposed part of the year to extreme changes of weather? Much of the work can be done in the house when it would be difficult to do it outside.

If as good results are obtained in the production of honey in the house, then the balance is in favor of the house. In a house of eight sides, 18 or 21 hives may be so convenient that supers may be put on or taken off without moving more than two steps, which may be done during a shower, or in the morning or evening. It would be disagreeable to do the same work at the same time if the hives were here and there in the grass.

Another principal advantage is that the hives do not get out of repair, and are always convenient. The principle involved in wintering is also important. In a house of the above description, when it is a question of packing the hive for winter, all that is required is a board fence or partition made in sections and set in the rear of the hives to keep the packing about them. In the spring this may be set aside and the packing stored away for the next fall. All this can be done while the bees are busy storing honey. Then the care of the bees is over till next spring.

It might be more convenient to have a covering for each hive made like a bed comforter padded with cotton or wool. The principal thing in packing is to retain the heat of the bees in the walls of the hive, always bearing in mind that it must not be so dense as to prevent evaporation. The covering that would keep the bee-master comfortable in bed during the winter season might be about the right thing for his little servants. When hives are packt in the dry, the covers should be left off.

In connection with the house-apiary, the most important principle or factor for good results is the hive. Loose-frame hives are out of the question in house-apiaries, for many reasons. The chief reason is that they are too cold in winter, spring and fall. The hive requisite to give satisfaction in a house-apiary is either a box, straw skep, or a tight-frame hive, on the same principle as the Notre Dame hive.

The life and health of the bee require a dry and high temperature. These two essentials can not be effectually maintained unless the bees are protected from drafts of cold air, and the hives protected from severe cold. When bees are thus protected they require very little ventilation, their nature not needing much air. On hot summer days they will remain for hours in great clusters. Excessive heat, either produced by too much packing or the rays of the sun, will drive them out of the hive. Bees require a very high temperature for comb-building, and the air-spaces around the frames militate against this work. But when they are in close, tight hives, kept warm by packing, they can control the temperature of the hive with less labor. I wonder how many bee-keepers realize what a great and continued exertion the bees in a loose-frame hive have, to keep the cold from penetrating the clusters when the air is rushing into the hive at a temperature of 25 degrees below zero.

A few years ago all our bees were on loose frames and protected in the best possible manner. We had a severe snow-storm lasting about (as near as I can remember) 48 hours, and the mercury indicated 25 degrees below zero. I visited the hives several times during the storm, and the bees kept up a noise night and day, the same as they do in the evening of a warm day after storing a liberal amount of nectar. Colonies that had not enough bees to keep up the hum were husht forever. I closed the entrance of some hives with snow, when in a very short time the noise ceast—because there was no need of a counter current.

The suffering endured by these little creatures from cold in the loose-frame hive is difficult of estimation. It is certainly cruelty to animals to keep bees in winter quarters where they die by pints, quarts, and bushels, from the effects of cold or damp. If farmers kept their horses, cows and sheep, or even hogs, in quarters in which they would die from the effects of cold or damp in the same ratio as do bees, they would be prosecuted for cruelty, and it would not serve them either to say that they died of old age.

From the best authorities we have on apiculture queen-bees live three and four years. If I mistake not I have read of a bee in Kentucky that ruled her hive eleven years. But these were queens and mothers. Yet a queen is a bee, and a queen will live three years and show no sign of superannuation. Therefore, a bee may live three or more years. The workers or field-bees do not live so long. Their days are shortened by violent deaths caused thru enemies feeding on them, inclement weather, and a variety of other causes, not to speak of the sickness and epidemics common to all animals.

In some localities, from July 1 to the middle of September, the average age of the workers may not be more than 20 days, while in other places, where their enemies are not so numerous, it may average 30 or 40 days, more or less. Perhaps of the millions of bees that perish every day in the working season not 100 of them can be truly said to have died of superannuation, or of old age, no more than it can be said of the English soldiers who went on the hills of South Africa to look for Boers.

If I make a strong plea for the betterment and comfort of the honey-bee I am not condemning the loose-frame hive, which is certainly a beneficial improvement on the old plan in favor of the honey-producer; I am only contending for an improvement on the same hive for the benefit of the bee. Since this improvement has been effected, and has given complete satisfaction for two years, and as it costs so little per hive, it must strongly recommend itself as one of the essential principles in the care of bees.

Some may prefer an open shed to a house. For the benefit of those I have done some experimental work, and beg to give the results.

Last October I packt three hives in chaff on the summer stands. They were in an open shed, and stood about four inches apart. I made a box of rough boards long and wide enough to set over them, allowing about a two or three inch space between this box and the hives for packing. Full depth supers were then put on the brood-chambers and filled with chaff, which was also packt about the hives till the box was full to the brim. Some boards were then put on to keep out the drifting snow. A thermometer was put in the packing between the hives and one outside. Here are the registrations:

January	27	thermometer	outside	indicated	....		zero.
"	27	"	inside	"	49	degrees	above zero.
"	29	"	outside	"	5	"	below zero.
"	29	"	inside	"	50	"	above zero.
February	1	"	outside	"	10	"	below zero.
"	1	"	inside	"	50	"	above zero.
"	5	"	outside	"	28	"	" zero.
"	5	"	inside	"	52	"	" zero.
"	16	"	outside	"	2	"	below zero.
"	16	"	inside	"	50	"	above zero.
"	17	"	outside	"	21	"	below zero.
"	17	"	inside	"	49	"	above zero.

These registrations I think show conclusively that bees wintered in the Notre Dame hive are not affected by sudden changes, nor do they suffer from severe cold, since the temperature on the outside walls of their hives never fell below 49 degrees above zero. The temperature inside the hive is certainly much higher, and it can be controlled by the bees to their own liking. The queens in two of these hives are young, the one in the other about 18 months old. All three are wintering perfectly. As these hives have wire-cloth doors on the porticoes it is not difficult to ascertain the number of bees that have died since last fall. The temperature in the hive being very comfortable, a sick bee can generally get into the portico to die even in the very cold weather. The old queen, in all probability, has not lost 150 of her bees by sickness since last fall. This kind of hive being the essential element towards making the house-apiary popular it may not be out of place here to devote a small space to it.

Since the ordinary loose-frame hive can be so easily changed by means of the Notre Dame Device into one that possesses all the requisites necessary to insure safe, dry and comfortable wintering to the bees, and at the same time lose none of the advantages afforded by the loose frames, but in many ways be a notable and useful improvement, there can be no objection in the mind of one who thinks for himself why it should not have a fair trial. After two years' use of this device in the hives and supers I can say in its favor that the danger of exciting or killing the bees is much less in handling hives, supers and frames. I have less propolis than before, and the bees have become so gentle that the smoker is very seldom required.

As the pressure of the screws may be several hundreds of pounds, hives and supers should be well nailed, otherwise their ends will expand. The bottom strip of frame should be made stronger, and nailed inside instead of on the end of the pieces. This insures better joints and prevents the bottom strip from bulging. In nailing the frame I have a little device for holding it, so exact in form that the frame can not be put into it if any one of the pieces be the slightest shade too large—and if too short a shaving or piece of paper may be inserted. These precautions are not necessities, but are certainly advantages that year after year continue to give satisfaction.

When the bee gets a new house she walks around, noting all cracks and crannies in which the wax-moth might lodge. If the surface is rough it must be planed and made smooth. For this propolis is necessary. Anticipating her wants in this respect I made it a point to have tight joints and a smooth surface. For this purpose I use tallow for filling up all inequalities of surface. It also makes the joints tighter when the device is screwed up against the frame, thus preventing the wax-moth from getting between the frame and board. I have never known the wax-moth to burrow in tallow. It does not seem to be agreeable to its taste. When the bee finds that her wants in these respects have been attended to, and having no use for propolis, she is well content to leave it outside. I do not recommend tallow as necessary any more than I would axle-grease for wheels. The purpose is almost similar in both cases.

Some time ago I read a rhyme criticising the inventors of fads and follies in the apicutural world. I believe the reading of this rhyme run all the smoother for having in its composition "lightning and tallow."

As I have no further interest in the Notre Dame hive than to place its good qualities before the public, I shall leave its adoption and manufacture to whom it may concern.

After all, it is only the application of the vise to a new purpose. Since the screw of the steamer has wrought such wonderful and beneficial results in navigation, shall it be a greater surprise if the vise placed in a bee-hive should also effect a like revolution in its manufacture—especially when the principal requisites of a perfect hive are involved?

St. Joseph Co., Ind.

No. 9.—The Queen-Excluding Honey-Board—How to Get the Most Out of It.

BY "OLD GRIMES."

THIS very convenient implement for the bee-keeper has received its due share of praise and blame, and of course with those who praise it the excluder has come to stay.

Perforated metal, when first introduced, was chiefly recommended for entrance-guards, and the Alley drone-trap was constructed chiefly of this metal. When first introduced a large number of the latter were sold, from the fact that they were a new thing, and something of a novelty, but we guarantee that not one in ten of those purchast is in use, and the most of them will be found in the pile of "has beens," and it is so to a considerable extent with the entrance-guards.

In the Grimes apiaries we use queen-excluding honey-boards, but use a small amount of perforated metal; it is economy to use less metal, and not obstructive to the bees. As ordinarily used the perforated metal is placed upon the hive in sheets, or it is made into a wood-slatted honey-board, and there is no way for the bees to pass except thru the perforation.

As previously stated, we use a 10-frame hive, and we make a frame for our honey-board just as tho we were going to use the slats and strip of zinc, but instead we insert a thin board the whole size of the top of the hive excepting a three-eighth inch space on each side. This space allows the bees free communication from brood-chamber to super, but it is along the outside of the outside combs. The queen scarcely ever visits the outside of the last comb in a 10-frame hive, or even an 8-frame hive, and the chances for her to get above thru the openings are small—in fact, we have had small queens get above even when perforated metal was used.

In the box-hive days the bees would work quite as well in the supers, and have access thru only two or three auger-holes, and in recent days some have recommended honey-boards with only one row of perforated metal. Now, why have any perforations if the bees work as well, or even better, and the queen stays where we want her?

There are times, tho, when we desire the metal, and a good share of our boards are provided with a simple device whereby a strip of perforated metal can be attacht over the spaces. This is used when we desire to rear a queen in the upper portion of the hive, and is not intended to prevent the old queen from coming up, but to prevent the young queen from getting down. We also use the metal upon our excluder when we first hive a new swarm and wish to keep the queen from getting into the sections, but in this case the use is only temporary, or until the brood-nest is establisht in the proper place, and then it is removed.

When working for extracted honey the excluder is used for a considerable period, for it enables the bee-keeper to secure combs solidly filled with honey, instead of half honey and half brood. In an ordinary season all of this brood in the super would hatch, or the young bees would become mature too late to gather honey, and they become consumers, as they have already been in the larval state. With a close watch of the honey-resources of a given locality, much money can be saved that would otherwise be uselessly consumed.

There are other times when the queen-excluder can be used to advantage. During a short honey season it is well to restrict the number of bees, and to keep the colonies weak instead of strong—it means less feeding.

In the Grimes apiaries we use the Porter bee-escape, and a few of our honey-boards are fitted with them. Strips of tin are placed over the two open spaces, cutting off all communication except thru the escape. We use this device for the removal of the most of our comb honey.

We use the bee-escape only to a limited extent upon our extracting supers—it is hardly quick enough in operation for our work. Our honey extracts better when taken directly from the bees. When the escape is used several hours must elapse before the supers can be removed, and if the escapes are put upon the hives in the evening, the honey is quite cool by the time we extract, and does not flow so freely from the combs; and, on the whole, the boys prefer the brushing and shaking process. With our shallow supers the bees are soon removed, and sometimes the brushing is not resorted to.

We expect that further developments will enlarge the usefulness of both the queen-excluder and the bee-escape.

Increase—Its Control and Management.

BY JOHN R. SCHMIDT.

ALL bee-keepers, practically speaking, are troubled with their bees increasing more or less beyond only a certain number of colonies which they desire to care for. This additional increase, especially in the production of comb honey, is hard to control. Numerous plans have been given in the bee-papers explaining how this evil may be overcome, but most of these plans either cause much extra labor or are altogether unprofitable. It is not a question of what *can* be done to prevent this increase, but a question of what can be done *profitably*.

The plan I propose, I think, will meet all requirements, and also saves one-half the work when preparing for winter, such as packing, feeding, etc.; in short, only half the number of colonies are to go into winter quarters that have produced honey during the season. I say produced honey, because if there was any nectar to be gathered all colonies would have been in a condition to store a surplus. Now, you undoubtedly know from what I have already said, such a state of affairs can only be brought about by uniting. I know many are opposed to uniting, but do not condemn it just yet—it is so easy when done right, and this is what saves lots of labor, and allows the bees to work according to nature the following spring. This is how it is done:

For example, the bee-keeper desires to keep only 50 colonies, and 25 hives contain bees at present. These colonies are built up in the spring by the various methods until all the hives are overflowing with bees, and all are ready to swarm. Now instead of removing queens and the like to prevent swarming, give room in the supers, and all that are ready to do so will begin to store their honey in the supers; some will give up the swarming inclination and continue to store in the supers thruout the whole season. So far so good; but there are others that are not so willing, and persist in swarming, and if prevented will waste much time in loafing. Now all colonies which act thus are actually encouraged to cast a swarm, for the sooner we relieve this pressing desire the sooner they will be willing to work, for it was long ago proven that it is wrong and almost useless to attempt to force a colony in such a condition to store honey in sections.

As soon as the swarm issues it is hived and placed next to the parent colony; thus the hives are always arranged in pairs, which prevents the loss of queens to a great extent as when the hives are in long rows, and also gives lots of room to work between each pair.

From now on the swarming can be controlled quite easily, and is under perfect control, as far as these two colonies are concerned. They are now given plenty of room in the supers, *but not too much*, just enough for them to occupy comfortably and *keep warm*. The old colony may be either supplied with a young laying queen, or allowed to rear one. In a few days if it shows any signs of swarming again, it is taken bodily and set on the opposite side of the new colony, thus throwing nearly all the force into the swarm, which will be in excellent condition for working in the supers, no signs of swarming, and working vigorously. The old colony, by being changed from one side to the other whenever it shows signs of swarming, has the swarming element removed, and supplanted by bees which have no inclination to swarm; thus both colonies will become extra strong, and will work with a vim and vigor, and victory is sure to be ours. By this method we have doubled our number of colonies, and all are working just where we want them.

"But now we have as many colonies as we desire to keep, and we can not follow this plan the next spring," some will say. This is only half the plan, and now we are at the close of the honey season with just twice the number of colonies that we intend to winter. Each pair of hives is now examined, and one queen is destroyed, which should always be the inferior one, if there is any choice between the two. Here we can always find a loop-hole to get rid of any inferior stock, or if all are choice many can be sold by advertising in the fall at a low price.

The queenless colony could be left in this condition for at least two days, and then set on top of the other hive with a bee-escape board (with escape removed) between the two stories; in a few days the colonies will be safely united. The bees will remove the honey thru the hole in the board to the combs below, where they can get at it more readily during the winter.

After the 21st day after the queen was removed, all bees will be hatcht, and the extra set of combs may be lifted from the hive and stored away, ready to receive a swarm again the coming spring, and the colony given the final preparation for winter.

In this way 50 colonies, which might need feeding to carry them safely thru the winter, can be safely united and wintered when reduced to 25, and all the expense of feeding, and half the work of winter preparation be saved.

This plan of controlling increase may be modified by dividing instead of allowing the bees to swarm, which would make it more convenient for those who can not be present when swarms issue; and also the method of uniting may be changed somewhat to suit those who may have a favorite way of their own; but this would not alter the plan any, which will practically remain one and the same thing.

It really looks to be very troublesome, and involving much labor when explained in print, but there are some things in this world the actual doing of which is much easier than the explanation of how to do them, and this is one of those things. Try it and be convinced.

Hamilton Co., Ohio.

A California Method of Managing Swarms.

BY MRS. F. S. A. SNYDER.

NATURE provides that bees should swarm, so I allow each colony to throw off one good swarm in a season. Have all ready made up and fully equipt one new brood-chamber and as many supers as you have colonies that you think will swarm, and 8 or 10 new frames (whichever number you use) for each super, with one-half sheets of comb foundation in each frame, tho the frames are wanted for the brood-chambers and swarms, as I will show. I use seven for each brood-chamber of foundation, and then place a frame with a little honey and brood out of a full hive in the center for the eighth, to encourage the swarm, and to keep them from absconding.

Now cut as many pieces of wire-netting just the size of the brood-chamber as you have supers, and two strips of wood one inch in width for the sides, and two strips of wood the same width for the ends, and about the thickness of a shake, or, if you have them, the strips of wood used to raise the brood-chamber from the bottom-board are just what you want, but you will want two instead of one; for the ends I use a shake cut in strips just the length and width of the ends and sides of the hive.

My method requires that you should be on the spot and know to a certainty which colony has swarmed. Directly the swarm has issued, and you are sure the queen is with them, remove the old hive from its stand and place the one brood-chamber with 7 frames of foundation, and one with a little honey and brood on the old stand, then place the wire-net separator over it, and then the sticks with one nail in each to keep them in place. Now cut a piece the size of an inch out of the middle of the end stick at the back end of the brood-chamber, so the young bees can have an entrance distinct from the swarm to fly from. Now place one empty super on top of the shakes, and above the swarm already hived in the new brood-chamber. Cut all queen-cells out of the old hive, and place the frames, young bees and brood, over the swarm in the empty super. If it is a two-story hive use two supers, and the bees will be that much stronger, and you can use the old brood-chamber with 7 new frames of foundation, and one from a strong hive with a little honey and brood in it for the next swarm, and proceed as before.

The first hive I fixt this way I did not think the wire-net separator or separate entrance for the young bees necessary, consequently the young bees hatcht out and fell among the empty frames or on the bottom-board and perish from hunger, and were hustled and jostled out half-dead by the hurrying bees of the swarm.

In from seven to ten days, according to the honey-yield, the queen of the swarm will have laid the frames in the brood-chamber full of brood, and the young bees will all have hatcht out of the frames in the super. They seem to know intuitively that there is a queen in the hive under the wire separator, and make no attempt to build queen-cells; however, the frames should be lookt carefully over, and if any cut them out.

Now remove the wire-net and place the empty combs out of the super in the brood-chamber, and the combs full of brood from the brood-chamber in the super, replace the super on the brood-chamber without the net separator, and if there is a good honey-yield 9 or 10 days after, you will find all the bees hatcht out of the frames in the super, and instead of brood each comb will be full of capt honey.

By this method you will have 40,000 worker-bees in the field, and 60 pounds of honey ready to extract in just 30 days after the bees have swarmed; and you need have no more colonies than you care to increase to; and with diligent extracting you need fear no more swarms.

Sonoma Co., Calif.

Feeding Whiskey in Honey to Bees.

BY C. P. DADANT.

MR. DADANT:—Did you ever hear of any one feeding whiskey to bees in honey, and is it true that it renders them bolder and causes them to try to rob other hives? About a week ago, a man who has three colonies of bees, told me that some strange bees were completely robbing one of his colonies. To-day very probably the same bees were robbing one of mine, and I only have three. I stopt up the entrances, and that helpt some, for my bees are quite strong.

I was told that when bees were fed whiskey in honey it makes them bold to rob other people's bees. What is your opinion? ILLINOIS.

In the first place, one thing which we must establish before all others, is that the bees do not discriminate between the colonies which belong to their owner and other people's bees. It looks as if it might be superfluous to mention this, but I have often heard the remark that Mr. So-and-So's bees were robbing Mr. Somebody's hives, just as if a man could "set" his bees onto another man's apiary as bad boys "set" one dog onto another, or as some of our so-called civilized Christians organize a prize-fight.

Bees have no sense of morality outside of their home interests. They love their home, they love their own sisters, and they love their mother with a reverence which resembles veneration; and all their actions, whether they be beneficial or injurious to the apiarist, are the result of these feelings, if we may so call their instinct. As a matter of course they love honey, but if they gorge themselves with it, honestly or dishonestly *in our eyes*, whenever occasion offers, it is only with the intention of taking it home and placing it in the cells for the common good of the colony. They do not know of any friends outside of their home, and all other hives are considered either as enemies or as possible plunder. So they will rob your own bees as well as those of your neighbor, and if whiskey has any influence over them, and makes them more vicious (and it is quite possible that such be the case, since it is the case with human beings), it would only add to the possible trouble in your apiary as well as in your neighbor's.

I have never heard of strong drink being used in feeding bees, except in one instance. I remember reading in L'Apiculteur years ago, of an old-time bee-keeper having fed his bees with bread dipt in honey which had been mixt with a proportion of wine, to cure them of diarrhea early in the spring. Having never tried it I can not say whether this recipe was of any value as a tonic for diseased bees.

The bee-keeper whose colonies are robbed by other bees, whiskey or no whiskey, can lay the blame on himself, and himself alone. A colony of bees in healthy condition and properly managed should fear nothing from robber-bees, except by some accident beyond the control of the apiarist, such as the breaking down of combs by heat, or the upturning of the hive by wind or mischievous animals or human beings.

When there is no honey in the field (and this is the only time when robbing is to be feared), if the weather is hot, the bees usually cluster at the entrance in sufficient numbers to repel all invaders, from an elephant to a mosquito. If the weather is cool, or the colony weak, it is the duty of the bee-keeper to see that the entrance be reduced in proportion to the strength of the colony. Then the only time when there will be any danger at all for a weak colony will be in cool mornings when the bees are clustered away from the entrance, and then only if the robbing colonies are early in the field, and excited to action. In such cases, if the apiarist foresees any trouble he can readily avoid it by closing up the hive-entrances of his weak colonies till the weather is warm enough to enable them to make a good stand at the door.

But why should any one keep weak colonies in this condition? At any time during the season, except in the winter, it is easy enough to strengthen a weak colony by helping it with brood or hatching bees from stronger colonies, tho this must be done with discernment, care being taken not to give them more than they can readily keep warm.

In the case mentioned in the above enquiry, it is evident that some colony of bees in the town found honey in some uncovered situation, either in a hive of which the bees had died, or in a queenless hive (which amounts to exactly the same thing), or in some open shed, etc. The finding of honey in times of scarcity has an effect on the bees well known to the practical bee-keeper, and the colony that has made the "find" is easily recognized, for its bees get into a condition of intense excitement. Those who have discovered the spoils evidently have a way of informing the others, but they have no means to tell them the spot, and since it is only by following them, or by hunting on their own account, that their sisters can be informed, the result is that the whole neighborhood is scoured by eager scouts. Every hive is examined, every crack in the bee-house, every shingle in its roof is scrutinized, and nothing escapes their vigilant search. Then let the exposed weak colonies beware—the robbers flock to them by hundreds, and will force an entrance unless a good defense is at hand.

There is no need of whiskey to cause this. A few neglected combs, a few drops of liquid honey, even a few spoonfuls of sweet juice of fruits, or of syrup, will do the mischief, and the bee-keeper who cares for his own bees, will carefully avoid any such excitement. The man who would cause this robbing with dishonest intent towards his neighbors' bees, would run the risk of being the first victim.

"WEEDS IN CITIES AND TOWNS"—SWEET CLOVER.

Mr. Lyster H. Dewey, assistant botanist of the Department of Agriculture, in the last Year Book issued, had something to say on the subject of "Weeds in Cities and Towns."

Weeds in vacant lots and waste-places may be of some use, or may be very noxious according to their kind. Mr. Dewey mentions a number of weeds as dangerous, owing to their poisonous qualities; others as disagreeable, owing to their bad odor. He overlooks the bad effect of the ragweed, in its deleterious influence on the lungs of persons subject to what is known as hay-fever, which has often been ascribed to the action of the pollen of this plant. But among the pleasanter weeds he classes clovers, asters, and the much-abused sweet clover. Altho the essay does not consider weeds in their capacity as honey-producing plants, yet in its conclusions it rather favors the very plants that are most useful to the bee-keeper.

If an outyard or a waste corner is to be left growing in weeds, it is much better for it to produce such a plant as sweet clover, which spreads a pleasant smell in the air, injures no one, and enriches the soil, while, on the other hand, it may be very readily destroyed if need be, than to have it overgrown with the stinking ragweed, the poisonous jimson weed, or datura stramonium, or thistles. The opposition to sweet clover as a weed where weeds must grow, is beyond my understanding, for I have never known this "weed" to do any harm to any one, as it is most readily exterminated when the soil it occupies is put under cultivation. Hancock Co., Ill.

Spraying Fruit-Trees—The Ontario Law.

BY R. F. HOLTERMANN,
Ex-Editor of the Canadian Bee Journal.

THERE is no doubt that the Canadian readers, and probably others, of the American Bee Journal, would be interested at this season in having a word upon the subject of spraying fruit-trees. Having been interested in bees and fruit, and having come in contact with many of our best authorities in both of these branches of agriculture, it may be of advantage to both classes to set forth their views. Ontario bee-keepers also welcome any copy they can secure of the "Act for the Protection of Bees." More than that, I have every confidence that were some one to print private postal cards or circulars, and supply them at a reasonable rate, many would order them by post, and send them to those likely to spray in their vicinity; or at a certain rate they could be mailed and addrest at the office where printed. Such a direct and unexpected notice would no doubt have a very wholesome effect as an educator. The card might be headed, "PLEASE TAKE NOTICE."

The best-informed fruit-men are fully aware that bees are of very great value to them in assisting in the fertilization of blossoms. True, their value varies, but the more uncertain the weather, the fewer the bright and sunny days in which the pollen is dry enough to be distributed by currents of air, the greater the value of the bees; they can do much valuable service in a very short time.

That it is becoming more and more necessary to spray to secure perfect fruit, there is no doubt. Insect pests are on the increase; and while rapid transit and the interchange of products between different countries has its advantage, there is no doubt that insect pests, disease, etc., have also thru it been spread.

No one in Ontario can get profitable returns from orchards without care and attention. "In the sweat of thy face shalt thou eat bread till thou return unto the ground," is true of every one that depends upon the soil for a living. These pests can only be kept down with toil. So that we might as well make up our minds that spraying will continue until the curse is removed.

But do bee-keeping and fruit-growing interests clash upon this important question? Not at all. The best horticulturists tell me that the mixture used for spraying is strong; that it must be used with care and caution, and by deviations in the quantity used in the compound, even the foliage of trees has been injured. They also say that if this mixture comes in contact with the delicate part of the flowers when in blossom, it is likely to injure them to such an extent that they will not set fruit at all. I know of an instance where such a result was clearly indicated. More than that, to spray during that time is a waste of time and material. Spraying should be done *after* the fruit has set and *before* the fruit set turns down; there is no necessity for spraying so close together. If these rules are observed the fruit-grower will profit, and the bee-keeper will not have bees destroyed.

Now some bee-keepers feel that they should make an example of some one in each neighborhood—not with the object of punishing the offender, but to draw attention to the law—to educate. It would be well if such could be avoided; law does not promote harmony among neighbors, and certainly does not advance the cause of Christ.

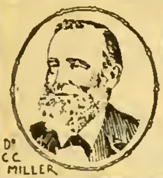
Many have a book professing to give information upon many subjects, and the directions in this book are to spray when the trees are in blossom. I found several spraying in my vicinity upon the strength of this authority. I do not think any one should be prosecuted until they have had the law shown to them, and it is as follows:

> 1. No person in spraying or sprinkling fruit-trees during the period within which such trees are in full bloom shall use, or cause to be used, any mixture containing Paris green or any other poisonous substance injurious to bees.
>
> 2. Any person contravening the provisions of this Act, shall on summary conviction thereof before a Justice of the Peace, be subject to a penalty of not less than $1.00, and not more than $5.00, with or without cost of prosecution; and in case of a fine, or a fine and cost being awarded, and of the same not being upon conviction forthwith paid, the Justice may commit the offender to a common goal, there to be imprisoned for any term not exceeding 30 days, unless the fine and costs are sooner paid.

Where bees were supplied with sufficient stores last fall they have wintered well. Clover is also in good shape. Spring has opened up late, and it appears to be making up for lost time now. Ontario, Canada, April 24.

* * *

The Premiums offered on page 288 are well worth working for. Look at them.



QUESTIONS AND ANSWERS.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Methods of Making Nuclei.

Will this plan do for making nuclei? I have a colony on 8-frames; would it do to take 2 frames of bees and brood (one having the queen on it) and place in new hive, and then let the 6 remaining frames rear a queen? PHILA.

ANSWER.—The plan will be all right providing you put the queen with two frames on a new stand and leave the remainder on the old stand. But it will be rather expensive to do all that for one queen. Cheaper to buy a queen, if your colony would do any good at storing honey. You might vary the plan in this way: Nine days after taking the queen away, put her back again with her hive on the old stand. Make 3 nuclei of the 6 frames, taking with the combs the adhering bees, and put the weakest of these nuclei, if there's any difference in strength, on the stand the old queen was just taken from, and put the other two in new locations. Divide the queen-cells among the three nuclei as nearly equal as possible.

◆

Queen-Excluders—Granulated Honey.

1. My bees wintered well. I have 15 colonies in movable-frame hives of my own construction. I want to run 8 colonies for extracted honey. Would you advise me to put on queen-excluders with an entrance to each story?

2. I sold a 60-pound can of extracted honey to my local druggist; it was fall honey, and now it has granulated so that he cannot let it out to put it into his medicines. He thinks I adulterated it. How can I convince him that it is pure? I would like to supply him further on.

3. Would you advise queen-excluders for comb-honey production? INDIANA.

ANSWERS.—1. Yes, use excluders and have full entrance to the upper story. While this upper entrance might not do for comb honey, it is well to have a big entrance for extracted honey, as it helps no little to keep down swarming.

2. Tell him to get some honey that he *knows* is pure, let it run out of the comb and keep it over a year. If the honey was produced in Indiana, it will be sure to granulate, altho some honey in the South may not granulate. Those who are informed will tell you that honey that stands over the winter without granulating is pretty surely adulterated, for glucose is the principal adulterant, and will not granulate.

3. In most cases they are not needed.

◆

Keeping Down Increase, Etc.

1. I do not wish any increase in the number of the colonies of my bees. What and how must I do with the swarms?

2. I notice granulated honey in the brood-chamber of some of my colonies. What causes it?

3. Can the bees use it?

4. What time should I put on the supers? Will it do to put them on any time in the spring so they will be certain to be there when the bees need them? TENN.

ANSWERS.—1. A very, very hard question to answer, if you are working for comb honey. You might give the swarm *all* the bees from the old colony when they swarm, or in other words take away all the frames of brood and honey, leaving all the bees on the old stand with the queen. The brood can be distributed among other colonies so long as there are those which need it, and afterward it can be piled up two or three stories high on the weaker colonies, and later some uniting may be necessary.

Perhaps this way may suit you better: When a colony swarms, kill or remove the old queen (the bees will do it for you if the queen is clipt, altho she may be left a number of days.) When the first young queen emerges, which will be 8 days or so after the prime swarm, cut out all queen-cells, and there should be no more swarming. If you are working for extracted honey the problem is easier. Just before time to swarm, put all the brood in a second story, leaving the queen in the lower story with frames of foundation or empty comb, an excluder between the two stories, and there will be little or no trouble with swarms.

2. I don't know just why honey seems anxious to granulate as soon as it can, but it is a very common thing to find some honey granulated in brood-combs. The colder it is, the worse the granulating.

3. Yes, but sometimes they throw out the granules. It has been recommended to take out such combs, spray or wet thoroly with water, and when returned the bees will work up the granules.

4. It is unwise to put supers on early in the spring. It cools off the hive, and if sections are put on they will not be kept so clean. It is better to put them on a *little* too soon than to put them on too late. Try to get them on about a week before you think the bees will need them. If white clover is your first harvest, put on supers about the time you see the very first clover in bloom, for the bees will not be fairly at work on it till a week or ten days later.

◆

Separating United Swarms.

How can I separate two or more swarms of bees that unite in swarming? IOWA.

ANSWER.—First hunt out the queens. You will often find each queen surrounded by a ball of bees. Put each queen into the hive prepared for it, a few bees with each queen, then distribute the bees equally.

◆

Queenless Colony.

I have a strong colony that has been queenless for 12 or 15 days; they have 5 queen-cells, some nearly ready to hatch. Do you think the colony will be all right, or should I get a queen? PENNSYLVANIA.

ANSWER.—The probability is that the colony will come out all right. If the queen begins to lay within two weeks after issuing from the cell, there is little danger of anything being wrong, altho there is a bare possibility that she might be a drone-layer, which can be decided as soon as brood is sealed. If the brood in worker-cells, instead of being sealed over so as to have the usual flat appearance, looks rounding like a lot of little marbles, the queen is a drone-layer and worthless.

◆

Stimulating Brood-Rearing—Getting Increase.

1. When using an extra hive-body underneath in the spring, do you feed or otherwise stimulate brood-rearing?

2. What plan would you adopt to build up colonies in the spring where the honey-flow commences about June 1, and there is apt to be considerable cold, windy weather during April and the forepart of May, the bees being wintered outdoors?

3. Suppose you wanted to double your number of colonies and have the new queens in the new hives with the new combs, leaving the old queens with the old hives and combs, the young queens to be reared from brood of one or two selected queens, how would you manage it? COLO.

ANSWERS.—1. Generally not.

2. See that they have abundance of honey and are as snug and warm as possible, then let them severely alone.

3. The case is hardly a supposable one. One way would be to build up on the nucleus plan, then take all old combs out of your new hives and exchange for new combs found in other hives.

◆

May be Paralysis—Working for Extracted Honey.

1. One of my colonies with a select tested queen which I got last summer seems to be losing a larger number of bees than the others; every day I see from 10 to 20 dying bees outside the hive, some very dark and shiny, and some have the abdomen swelled. There are no half-dead bees in front of any other hive. Would it be owing to some weak-

ness in the queen? I was intending to rear queens from that colony. Would you advise doing so? I have another untested one, gotten at the same time, which, as far as I can see, was purely mated. Would it be better to breed from her?

In working for extracted honey, would it be a good plan when the hive (I use the 8-frame Langstroth) is getting nearly full of brood, which will be about the beginning of May, to put on a second story, full-size frames, and when the flow is coming on, about 5 weeks later, put a queen-excluder between the two stories? or would it be better to put on a third story with an excluder under it?

The bees are doing well so far, some colonies having now (April 15) five frames nearly full of brood and eggs.

British Columbia.

Answers.—1. From the description it seems to be a case of bee-paralysis, and as far north as you are the probabilities are that it will soon disappear. You hardly need be afraid to breed from the queen.

2. Either plan is good, the last being perhaps best. If you prefer to have no swarming, you may like better, at the beginning of the flow, to give an empty story below, putting the queen in it and an excluder over it, and putting the two stories with brood over the excluder.

Fastening Wood-Splints in Comb Foundation.

How do you put whole sheets of foundation in the brood-frames with splints? Do you put them opposite each other, one on each side of the foundation? Will they interfere with brood-rearing? Where could I get some of the splints?

Subscriber.

Answer.—The splints are put only on one side. I don't believe there would be any advantage in having them on both sides, and it would be more trouble. I never could see that the splints interfered in the least with brood-rearing. I could show you frame after frame filled solid with brood, and you would find no signs of any splints present, only in some cases you would find a row of cells right over one of the splints projecting slightly above the sealing about them. But you would have to look pretty close to see it. Any establishment that has a machine for slicing wood separators can easily slice the sticks. Ask for sticks 1-16 inch square and ⅛ inch shorter than the inside depth of your frame.

Sowing for Honey—Best Extracting Frame—Clipping and Swarming—Cyprian Bees.

1. What is the best plant to sow, that will bloom the same summer, for honey alone, besides white clover?

2. Which is the better frame to use above the brood for extracted honey, the ordinary brood-frame or the shallow extracting-frame?

3. If a bee-keeper should clip the queen's wings, and go thru the hives and take out every queen-cell, would not swarming be reduced to a distant possibility?

4. Can you tell me who keeps Cyprian bees for sale, or queens?

Minnesota.

Answers.—1. Perhaps buckwheat. You'll get all you can ever get from that the first year, and white clover will hardly do a good job the first year.

2. The shallow frame. Bees occupy it more promptly, fill it more promptly and more uniformly, the queen is not so likely to lay in it if no excluder is present, and the uncapping is easier.

3. Looks very nice on paper, but when you try it in practice it doesn't fully meet expectations. Clipping a queen's wings doesn't make a particle of difference about swarming. The swarm will issue just the same as if the queen had not been clipt. But it does make a difference about the swarm going off. Cutting queen-cells answers sometimes to prevent swarming, and sometimes you may miss a cell, and it sometimes happens that a colony may swarm the next day after you cut the cells, just to spite you. It is true, however, that if you cut out all queen-cells faithfully you will have less swarming than if you let them alone.

4. I only know them as they are advertised, and about this time of year you will find advertisements in the bee-papers of about everything to be had in the bee line.

Getting a Start in Bees.

How and where could I get a little start in bees, say about 2, 3 or 6 colonies with queens? Can you forward them? What would they cost?

I got a good, nice colony last summer from a friend, and they did well right along, and over the winter till now. About the middle of March a mouse made its nest in the hive, and all the bees died, leaving the hive full of combs and a few pounds of honey. I suppose that the old combs would be all right to start a new colony. Would one pound or ½ pound of bees for each colony be enough to make a start with?

Nebraska.

Answer.—You will find among advertisements in this journal those from whom you can obtain bees and queens. I do not deal in bees or queens, except to furnish the queens ordered thru George W. York & Co. It is not too far to get bees from Illinois or farther; only the farther they are the heavier the express charges are. Perhaps you may do as well to find some one near by from whom you can get a full colony to start with. A pound of bees with a queen put on your old combs can be built up into a good colony. Much depends on the season. In a very poor season they might hardly be got ready for winter without feeding, while in an extra season they might gather more than enough for winter.

A Beginner's Questions.

Last fall when my son George went away he and his brother-in-law gave me a colony of bees, but when we went to get the honey out, about the last of October, the queen, or *a* queen, was in the super, and she died. The bees did not swarm last summer, and stored nearly 100 pounds of comb honey, and seem to be very strong. We thought perhaps it was a new queen or she would not have gone into the super. The bees are in a fine modern hive. How can I tell if they have a queen? What would I better do? What would a queen cost if I need one? And where could I get it?

Illinois.

Answer.—Whether the queen was a new or an old one, there is good reason to fear it was the only one in the hive, and perhaps too late for a chance to have another one reared. You can decide the matter by seeing whether any worker-brood is present in the hive, that is, brood in worker-cells, the smaller cells that measure five to the inch. There is, however, a chance that there may be a drone-laying queen or laying workers present, in which case the sealed brood, instead of being flat, will be rounding like a lot of little marbles. You can get an untested queen for a dollar, generally, and any of the advertisements in this paper will tell you where to order from.

A Drone-Laying Queen.

I have a case of a queen laying all drone-eggs this spring, that I can't account for. I reared the queen in June, 1898, from an imported mother. She built up the colony nicely that season, and last spring my son and I clipt the right wing, so that in case of swarming we would not lose her, as she is a fine one. This morning (April 17) seeing some young drones at the entrance of the hive, I opened it, thinking my fine queen was gone, and a young one had been hatcht too late to be mated; but to my astonishment I found the fine clipt queen on the comb busy laying, and nothing but sealed drones in worker-comb, and brood in all stages from the eggs to drones, hatching out.

1. Is there any likelihood of the queen changing and laying worker-eggs again?

2. Will her drones be good to breed from with young queens before the usual hatch of mixt drones comes on?

3. I took the queen out with one frame of bees and brood and put them in an observatory box to see what the result will be. I gave the colony a frame of eggs and brood from one of my imported queens. Did I do what is for the best?

Illinois.

Answers.—1. It is not uncommon for a queen when she becomes old to lay part or all drone-eggs in worker-cells, but not often so young as your queen. It is not at all likely she will ever be any better.

2. Her drones are all right for breeding, except that the size of those reared in worker-cells is objectionable.

3. Quite right.

AMERICAN BEE JOURNAL.
ESTABLISHT IN 1861 OLDEST BEE-PAPER IN AMERICA
DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS

PUBLISHT WEEKLY BY
GEORGE W. YORK & COMPANY,
118 Michigan Street, Chicago, Ill.

[Entered at the Post-Office at Chicago as Second-Class Mail-Matter.]

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IMPORTANT NOTICES:

The Subscription Price of this journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "Dec00" on your label shows that it is paid to the end of December, 1900.

Subscription Receipts.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows you that the money has been received and duly credited.

Advertising Rates will be given upon application.

VOL. 40. MAY 3, 1900. NO. 18

EDITORIAL COMMENTS

NOTE—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

The Brosius Pure Food Bill, we learn, will likely be reported very soon in the House. It is hoped that Congress will approve it promptly, so that its wise provisions may be applied at once.

Which is the Most Hopeful Field for improvement in bee-keeping? is the question to which Editor Hutchinson is anxious to learn the right answer. He asks for light, throwing out the hint that it may be in the line of wintering bees, planting for honey, improvement of stock, or marketing honey.

California Bee-Keepers' Exchange.—C. H. Clayton gives in Gleanings in Bee-Culture seven reasons why it has not been a greater success, viz.: Selfishness; trying to get more separately than thru the organization; mortgaged crops; rebates on commissions; intimidation from buyers; apathy; jealousy; dissensions. Too bad that bee-keepers don't "get together" better than they do.

The National Bee-Keepers' Association.—Editor Root is quite enthusiastic over the results of the effort to down adulteration in Chicago, and thinks the efforts of the Association, together with the new Illinois law to go into effect in July, "are going a long way to wipe out adulteration in one of the worst centers of adulteration in the United States." He continues:

> "Indeed, I should not be surprised if it would stamp it out entirely. In either event, no one will know just how much the Association has contributed to bring about this very desirable result. But that it has certainly done *something* can not be denied. I tell you, brethren, we ought to stand by the Association. Give it your dollars, because it is fighting *your* battles in a way that you can not do single-handed and alone, and I promise you there will be some later developments that will be an eye-opener if nothing else.
>
> "By the time the National meets in Chicago, in August, I hope there will not be a pound of adulterated goods to be had in the city."

In-Breeding.—A. Alfonsus, a prominent German writer, scouts the idea of deterioration on account of in-breeding, in consideration of the fact that the queen may meet drones from a long distance.

The Inventor of Perforated Zinc.—Hanneman was lately visited in South America by Editor Schenk, of the Brasilianischen Bienenpflege. He is more than 80 years old, and has now 335 colonies of bees, besides being engaged in grape-culture. He is called the inventor of giant colonies, uniting a number of swarms in one after sifting out the extra queens. In one case he had 123 pounds of bees in one hive, taking from them 880 pounds of honey. For hives he uses kerosene-cases, from each of which he cuts one-third for a super. Altho he has an extractor, he takes out the honey by steam by a specially constructed arrangement.

Shall Granulated Honey Be Put on the Market?—Chalon Fowls rather pokes fun at the men who favor it. He says in Gleanings in Bee-Culture that it may be the best that Mr. Aikin and others can do in Colorado, where alfalfa honey candies so quickly, but it doesn't follow that it is best in the East, with different honey. If the work is properly done the first time, there need be very little gathering up and melting of clover and basswood. He thinks good prices can be obtained only by keeping the honey liquid. Editor Root thinks Mr. Fowls might change his mind if he would study the Colorado markets, and says there are many who eat candied honey as so much confectionery, and prefer it.

Improvement in Bee-Stock.—In the last number of Gleanings in Bee-Culture, Uncle Lisha goes sidewise at the question of improvement in bees, reporting conversations with several of his neighbors somewhat prominent in different lines of stock-breeding. As an outcome some very telling facts are brought out. The popular Concord grape was obtained by successive improvements made on the wild fox-grape only fit for partridges and wild Indians to eat. From the wild hog has come the plump porker of to-day. A man who averaged 5 pounds of wool from each sheep in 1865, now averages 10 pounds. A man who 30 years ago got 200 pounds of butter to the cow now gets 300. After this is all brought out in an interesting manner thru conversations with the different men, Uncle Lisha has a closing conversation with his neighbor Simpson, who has been listening in mute astonishment, Uncle Lisha saying:

> "You see," said I, "improvement is the watchword with every profession nowadays; and if the bee-keepers don't improve their stock they will get left."
>
> "Geewhittaker! I should say!" exclaimed Simpson. "But what is the use of wasting your time in trying to improve your bees when you can just as well keep bees enough to get all the honey there is, and they will board themselves and work for nothing, as I have heard folks say?"
>
> "Just this," said I. "The flowers within range of my home yard give on an average yearly, say 10,000 pounds of honey. Now, if I keep the average run of bees it will take

about 100 colonies to gather it, or 100 pounds of honey for each colony. Of this it will take about 70 pounds to keep each colony a year, leaving me only 30 pounds of surplus to the colony, or 3,000 pounds from the whole yard. But if I keep stronger and more industrious bees, so that each colony would gather 140 pounds while the other was gathering 100 pounds, it would require but 71 colonies to gather the whole 10,000 pounds; and as it would not require any more to keep each colony than it does the poorer stock, I should get 5,000 pounds of surplus instead of 3,000 pounds, when I had to keep 100 colonies, to say nothing of the smaller number of colonies to care for, or hives to keep in repair. And what is true of my home yard is true to a greater or less extent of any other yards. See?"

The Weekly Budget

Dr. C. C. Miller and Family (Mrs. Miller and her sister, Miss Emma Wilson) gave us a short office call last week when in Chicago on a shopping expedition. They may well be called "The Happy Three."

* * * * *

Sweet Labor.—"How is it you're such a great worker?" askt the grasshopper.

"Because I love to work," said the busy bee. "I couldn't be happy without it. In fact, you have noticed when my busiest season is on I'm in clover."—Philadelphia Press.

* * * * *

Mr. W. J. Pickard, of Richland Co., Wis., dropt in to see us on Thursday of last week. He reported their nearly 400 colonies of bees as having wintered with a loss of only about 10. His daughter, Miss Ada, will run her large apiary again this season, as usual. Mr. Pickard has been investing in a few young samples of Polled Angus cattle. With the good women of the family to look after the bees, and Mr. P. to take care of the blooded farm stock, they have a pretty strong combination.

* * * * *

Editor Ernest R. Root had this to say in the last number of his paper, dated April 15:

"I have just returned from attending a convention of the Chicago Bee-Keepers' Association—an organization that takes in bee-keepers of the city and immediate vicinity. The convention, while not large in attendance, was an excellent one, and the discussions were of the very best. After the convention I had a delightful visit with Dr. Miller and his family."

* * * * *

Editor Leahy's Good-By.—An editorial in the Progressive Bee-Keeper begins by saying that in these days of telephones the word "good-by" has not connected with it the pathos of the olden time, but the good-by that he is now to speak is sad as that of yore. After thus stirring one up to wonder whether his editorial pencil or typewriter is to be forever stilled, or what other thing is to happen, he relieves the strain by saying that about 300 delinquent subscribers are to be "good-byed" if they don't at once walk up to the captain's office and settle. Business, that.

* * * * *

The Department of Criticism, in the Bee-Keepers' Review, which for some time has been in charge of Hon. R. L. Taylor, appears for the last time in the April number. Editor Hutchinson gives as the reason for its discontinuance: "I think the space can be better used in a *different way*." No doubt about that. Mr. Taylor is a clear and forceful writer, and undoubtedly a good bee-keeper, but how he could consent to put in his time and space, as he sometimes did, in petty pickings and hypercriticisms, is beyond our comprehension. But, then, we are just a little city editor of a bee-paper that only aspires to give its readers the genuine gospel of practical bee-keeping, and likely will be excused if we fail to appreciate some of the fine attempts to show the wonderful difference existing between the tweedledee and the tweedle-dum in things apicultural.

BEEDOM BOILED DOWN

Bees and Fruit. Every fruit, flower and vegetable grower should keep bees to aid in disseminating pollen on those blossoms that do not thoroly fertilize themselves. Good trees, buds and blossoms do not insure a fruit crop, but the pistil must be fertilized, cultivation continued, and the tree sprayed to check the ravages of destructive pests. —American Fruit and Vegetable Journal.

Ants in the Honey-Room.—H. D. Burrell says in the Bee-Keepers' Review:

"If you are troubled by ants, make a bench to keep honey on by laying 2x6 inch pieces of lumber edgewise on the floor and covering them with boards. Make a chalk-mark one inch wide entirely around the middle, lengthwise, of the 2x6 pieces, and not an ant can crawl up over it. They can't get a foot-hold."

Tall Sections.—C. A. Hatch argues in the Bee-Keepers' Review for 4x5 sections. For some reason they are better finisht, and the yield is larger. He says:

"In answering the most common argument against tall sections, viz., cost of extra supers, we will ignore the first point in their favor, *i. e.*, better appearance, and take only the last two—finish and quantity. I think, from extended observation at the apiary of Mr. Mendelson, who had 4x5 sections by the ton, that the grade was raised on at least 10 per cent. But, to be moderate, we will cut that in two, and call it 5 percent; and the 10 percent of increase of yield we will also halve, so, on a 50-pound yield, we would have 2½ cents gain for grade, and 25 cents for yield; which would give us a gain of 27½ cents. Can a man afford to lose 27½ cents to save the cost of a 15-cent super?"

Production of Extracted Honey with 8-Frame Hives is the topic of Harry Lathrop in the Bee-Keepers' Review. He thinks it better to be prepared to work for both comb and extracted, as conditions may be more favorable for one or the other; prefers a 2-frame Cowan to any 4-frame extractor. Whenever a colony becomes strong enough, he would give a second story of brood-frames, if necessary changing combs from one story to the other, so as to get brood in as many as possible. At the beginning of the honey-flow, an excluder is put over and a third story given for surplus. When this is pretty well filled, it is raised and another put under it. If necessary, a fifth story is added, always keeping the ripest honey at the top, and extracting as soon as fit. If the honey in any comb is the least bit watery, it is returned to the hive for ripening.

Management of Swarms for Comb Honey is given by J. F. Otto in the Bee-Keepers' Review. A swarm is put into a hive consisting of two Heddon brood-cases, the upper one only being provided with narrow strips of foundation. Mr. Otto continues:

"The next swarm that issues is handled in the same way; and then carried and set by the side of the other swarm that issued first. The two swarms are left that way until each swarm has built its upper case full of combs. As soon as that is done, I remove the lower empty brood-case of each swarm, and unite the two swarms by putting the two brood-cases, with queens and bees, one upon the other, on one bottom-board, thereby making one colony of the two. I put on the cover and leave them that way until the next day, when I lift off the upper brood-case, put a queen-excluding honey-board on the lower case, shake all the bees from the upper case down in front of the hive, and put the upper case back on the hive, leaving the queen-excluder between the two cases. Then I go to the old colonies from which the swarms issued, take off the supers and put them on this young newly united colony.

"The old colonies are supplied with Heddon brood-cases filled with empty combs, and are kept busy filling old combs with honey which is to be extracted, or to be used in the fall for supplying such colonies as are in need of honey."

THE AFTERTHOUGHT

The "Old Reliable" seen thru New and Unreliable Glasses.
By E. E. HASTY, Richards, Ohio.

THE UNCAPPING-KNIFE AND ITS USE.

Did I hear you say, Mr. Grimes, that knife-makers should make the knife hold fast in the handle? I'm afraid that's a little like saying that commission men should be honest. Speak to us again when you have devised some way to make 'em do so. No one should be askt to pay a dollar and over for a knife unless it is put together, and put together for keeps. You see (despite the excellent Grimes advice to use the honey-knife only for uncapping) I use mine to clip my asparagus-green shades; and I have to curl my trigger-finger around it, like I was about to shoot a Boer, or Britisher. Not quite sure we should *always* cut the comb down to level relentlessly. And he didn't tell about late uncapping, when the combs have been on the hives all summer. Who'll get up a tournament, with a prize for the best and most rapid uncapping, and a reporter capable of describing the different ways of manipulation in which the champions proceeded? Page 178.

A COMPARISON THAT DIDN'T COMPARE.

In the last Afterthought, page 246, there is a bad "out," in which figures for comparison are given, and nothing to compare them with. The idea was that one colony has 20,000 field-bees out of a total of 30,000, while another has only 2,000 out of a total of 20,000. The home bees not counting, it is plain that a field which would supply nectar for 50 colonies of the former would supply 500 of the latter. And this element is one usually overlookt in such calculations.

MR. VAN BLARICUM AND HIS APIARY.

Mr. Van Blaricum, you look business in your long, single-line, flight-o'-ducks apiary. But what was the special need of warming your thumb? Did a bee make too free with it? And is that your remedy for stings? Your extempore shades of sunflower are good—makes them last all the fall, to keep the blossoms cut off. Page 177.

APIARIAN STATISTICS OF THE COLORADOS.

From 65 tons of honey in 1889 to 600 tons in 1899 is rapid growth for Colorado. They are happy in having things in shape out there to know a little more about bee-population and crops than some of the other States can at present. Page 181.

RELATIVE LONGEVITY OF STRAINS OF BEES.

H. Rauchfuss, of the Colorados, once more turns our minds to that important (important if true to report) consideration, the relative longevity of different strains of bees. Is it not strange that we should be so sadly lacking in definite evidence on such an important point? A comrade will tell us that his favorite bee is longer lived than other bees; but whether they live 15 days longer or 15 minutes longer—he hasn't got so far as that yet. Definite proof of how long worker-bees live is not very hard to get. Who will keep some long-lived bees and some short-lived bees side by side under identical conditions, and show us just how many days of difference there is during the honey-flow in June? Ere we spend very much time and cash, let us first be sure we are not pursuing a will-o'-the-wisp. You see it *might be* that the supposed short-lived ones are really just as long-lived as the others—the real trouble being an unusually large percentage of defective and worthless individuals among the brood. Page 182.

WAX-SECRETION AND HONEY-GATHERING.

Mr. Rauchfuss also says he has several colonies in his apiary markt approvingly because they use wax to build the burrs on top, where other colonies use propolis largely. Shouldn't wonder if he were on track of something valuable. I suppose the idea is that such bees do not use propolis because wax is *plenty* with them—and that plentiful wax-secretion goes with plentiful honey-gathering. Does it always? Page 182.

BETTER "SEASON" NON-SWARMING THINGS.

President Aikin is a wise man. He always partakes of a grain of salt when he hears of non-swarming bees. Better include non-swarming hives and non-swarming methods—and double the dose of salt, and take it every half hour. Page 182.

THE BLACK BROOD SCOURGE.

What shall we say about P. W. Stahlmann's report of black brood on page 204? To lose 200 colonies out of 450 in one season is rather a shocking record for a person to make who seems to be reasonably diligent and expert in his craft. Perhaps it's mainly because no one knows yet how to proceed against a new disease; but again, perhaps—perhaps we have a plague on our shores that's going to sweep the country despite all that can be done.

"WATER ON THE HEAD" FOR BEE-STINGS.

Henry White, page 203, is certainly a veteran; but to souse one's head in a tub of water when an army of infuriated bees are grubbing it over—that's what some of the veterans would call one of the greenest of greenhorn tricks. You see, wetting does not improve their temper much; and you fix 'em so they can not leave you when they get ready.

PURE-FOOD LAWS AND THEIR ENFORCEMENT.

Mr. Abbott may be right that the matter of pure food and honey should be left in the hands of the Commissioner of Agriculture; but somehow it seems a little to me as if an officer with no other duty to perform would be less likely to neglect duty. A thoroly competent and good man would get to work in either case; but even a rather poor stick (such as the political machine is apt to give us) would do *something* if wicked obstruction or utter idleness were the only alternatives. Page 199.

FULL FOUNDATION SHEETS IN SECTIONS.

The appearance of the thing on page 196 is that five of the Colorados believe in full sheets of foundation in sections, and act accordingly, while 13 more believe the same thing but don't live up to their faith. Still, those who believe in total depravity are all the better for not living up to it.

FASTENING FOUNDATION IN SECTIONS.

Keep your cut foundation as cold as ever you can, by some extemporized refrigerating arrangement, if you are going to set it by the hot-plate process. New idea to me, but looks very sensible. They didn't agree as to whether the hot plate should be allowed to warm the wood of the section a little.

WINTERING BEES IN A "CEMENT CISTERN."

Bingham's bee-cave looks dreadfully sinister somehow. One would think that, if not actually a den for the commission of crime, at least the slaughter of innocent little lambs must be carried on inside that dark, wigwam-like structure. Am not quite sure I like the idea of wintering bees in a cement cistern—but that feature of the thing could be modified—and "pretty is that pretty does." If this new departure in wintering-repositories does all that is expected of it, it will be as pretty as Annie Laurie herself. Excellent plan to weigh the dead every exact month, so the bee-keeper knows just "where he is at." So far the record is lovely at a loss of about a third of an ounce a month per colony. This would be about 93 bees out of say 14,000—but wait till you hear from the *last* month. Page 193.

INTRODUCING QUEENS.

Mr. Bonney might have carried his safe-introduction plan a little further yet. Of a colony having lots of brood one can not impound all the bees *a la* Doolittle; but just previous to running in the queen and the first half of the bees, those left in charge of the brood can also be shaken out and put in "durance vile" for a season. In returning these last, just set them near the door and let them go home individually, instead of all in a rush. Page 196.

BLOCKING THE BROOD-CHAMBER WITH HONEY.

So according to Mr. Aikin, page 195, a weak colony will always crowd the brood-chamber with honey, if they have the honey to do it with, and the strongest will do the same thing in just the requisite kind of a slow flow. Sensible—but! Are there not some bees with which you'll never have a blockt brood-chamber if the colony is fairly populous?

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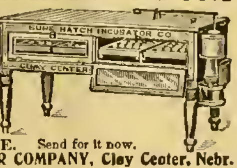

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GENERAL ITEMS

Bees Doing Well.

My bees are doing fine, all having come thru the winter all right except one colony, which died from exposure. I winter my bees on the summer stands in dovetailed hives, with no protection but the chaff cushions on top. They are now bringing in plenty of pollen, and the hives are full of brood and young bees. I practice spreading the brood-nest, and find it a great advantage. I expect to double the number of colonies I now have by increasing. I have some blacks, but will substitute them with Italians, by Doolittle's plan.

My bees did not do so well last season, as the season was too dry still I can not complain, as I got from 30 to 40 pounds per colony, but did not increase any. I sold all my honey in neighboring towns, and could have sold more if I had had it. I sold it for 11 to 12½ cents, and had no trouble. I put my honey up nicely, and in both small and large packages, so as to please all.

P. I. HUFFMAN.
Rockbridge Co., Va., April 18.

Have Filled Two Supers Each.

I have 40 colonies of black bees which are doing well at the present time; some have already filled two supers, each containing 18 one-pound sections. By the first of June everything dries up here, so there is nothing but grapes and fruit for the bees to work on.

JAS. PETERSON.
Tehama Co., Calif., April 17.

Wintered Nicely in the Cellar.

I put 60 colonies of bees into the cellar Nov. 15, and lost 4 by starvation, being rather light when put in. I took them out April 3, and they carried in the first pollen April 7, from soft maple and poplar. My bees wintered nicely, and are strong. The temperature in the cellar was mostly 38 degrees above zero, and at no time 45 degrees. Bees seemed most quiet at 38 degrees. My thermometer hangs about the center of the cellar.

G. P. UTENDORFER.
Sibley Co., Minn., April 19.

Laying Workers and Their Progeny

I notice on page 39. some one asks what makes a laying-worker. I don't propose to answer this question for Dr. Miller, but confess "I don't know." But there is one thing I do know, and that is that when I am so careless as to let a colony of bees get into a condition to expect laying workers, I must hop and skip until all of their brood is destroyed; and if any have emerged from the cells, some of the good plans given in our text-books must be speedily applied to destroy these worthless inmates of the hive. They are nothing more than "faulty drones," and have given much trouble in my bee-yard.

I rear queens for my own use, and after 15 years of experience I boast that I know pretty well how it is done. When I rear fine, large, prolific queens and they mate with these "faulty drones," I have a queen whose daughters produce bees that are weak, and in most cases have bee-paralysis.

Early in the spring of 1887 I bought a tested Italian queen, and reared queens, divided, and sub-divided, until I had a considerable number of colonies, and they went into winter quarters swarming in a sea of glory. But long before the calendar changed to 1888, quite a number of the bees had deserted their hives, and the following spring found me with but few colonies and a small number of bees in each. From the hive in which I wintered the tested queen I noticed drones flying freely. Upon examination

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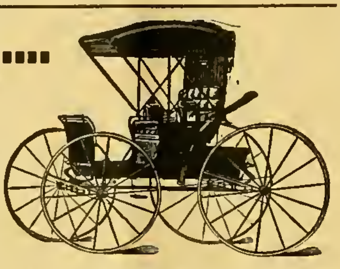

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18E2t W. A. HENDERSON, Clarinda, Iowa.

I found the tested queen gone, and the bees rearing drones in worker-comb. From the amount of brood. and the drones already hatcht, I judged that they were at work in good earnest. These faulty drones were beautiful in color—the yellowest I ever saw. A new idea struck me, and I concluded I would rear some queens and have them fertilized by these yellow drones before there were any drones from the other colonies. I reared 3 queens, and they were laying by April 15, before there were any drones from the other colonies. As soon as these bees began to emerge from the cells, I selected the queen that produced the best markt bees to rear queens from.

After rearing several queens from her, and introducing them into my best colonies, I began to congratulate myself upon what a wonderful piece of machinery man was that he could dive so deep into Nature and bring out the hidden mysteries, when, to my surprise and sorrow, these last-reared queens produced bees that had bee-paralysis. This may be a matter of locality, but I find that queens produce bees that are much better honey-gatherers when they mate with drones from the best honey-gathering colonies. H. B. Lambert.

Simpson Co., Ky.

No Loss in Wintering.

This is a nice, warm week, the peach-trees are blooming, and the bees are making use of the bloom. I wintered my bees on the summer stands with the loss of none out of 68 colonies. L. A. Hammond.

Washington Co., Md., April 21.

Wintered Especially Well.

Bees have wintered especially well in this locality (eastern Ontario) and prospects are good for the season. G. G. Shirreff.

Ontario, Canada, April 18.

Combining Bees with Other Things.

I have 30 colonies of bees in good shape, with plenty of sweets and lots of brood. I have had a severe case of bee-fever for about 3 years, and I can't see that it is abating any; rather I am sure I've had a relapse, and at this writing the fever is very high, and I rather think it will terminate in the higher stage of the fever—that of general bee-keeping. Of course, I don't mean by this that I will make the one pursuit of bee-keeping my only and entire business, for I mean to keep several good milk cows and patronize the creamery, and will rear thorobred O. I. C. hogs and barred Plymouth chickens. But with all this I am to keep at least 25 or 30 colonies of bees.

I propose to plant such forage as will produce both nectar for bees and feed for cattle and horses, thereby getting the extra crop of honey which I would lose if I had no bees. In these days people ought to plan to make all they can, and save all they make. See? Wm. Hitchcock.

Lonoke Co., Ark., April 21.

Robber Bees and Their Treatment.

Some of the incidents of my experience with a certain case of robbers may be suggestive as a help to other amateur bee-keepers.

Soon after placing my bees (20 colonies) out of the cellar, the unwelcome sound of prowling robbers was heard. Fighting was noticed at the entrances of 6 or 8 colonies, but finally nearly the whole force concentrated at one place. I tried to help the colony by contracting the entrance so that only about a space of one inch remained open. In front of this a little block was placed, which is a great help as a protection for the defense. In ordinary cases this arrangement is effective. This time the siege was continued and in a few days the robbers overpowered.

They now began to go in and out the small entrance quite freely.

Two of the colonies were noticed to be flying stronger and with more intent than

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2146-48 Central Ave., CINCINNATI, O.

Please mention Bee Journal when writing.

Yellow Sweet Clover Seed

WE HAVE IT AT LAST!

We have finally succeeded in getting a SMALL quantity of the seed of the YELLOW variety of sweet clover. This kind blooms from two to four weeks earlier than the common or white variety of sweet clover. It also grows much shorter, only about two feet in hight. It is as much visited by the bees as the white, and usually comes into bloom ahead of white clover and basswood. We offer the seed as a premium

A QUARTER POUND FOR SENDING ONE NEW SUBSCRIPTION.

So long as it lasts, we will mail a quarter pound of the seed to a regular paid-up subscriber who sends us ONE NEW subscriber for the American Bee Journal one year, with $1.00; or ¼ pound by mail for 30 cents.

We have been trying for years to secure this seed, and finally succeeded in getting it. It is new seed, gathered last season by an old personal friend of ours, so we know it is all right. But we have only a small supply. When nearly out we will mention it.

GEORGE W. YORK & CO.,
118 Michigan St., - CHICAGO, ILL.

the others, so they were suspicioned as the ones making the trouble. As a test, the entrance of the colony being robbed was screened with wire-cloth, and in 15 or 20 minutes it was removed again. The robbers in the hive having filled themselves, and anxious to leave, came out like the beginning of a swarm. It was easy to note that they went to those two colonies in question.

I now tried the sawdust project, even to extreme measures, closing the entrance of the robbers' hives almost entirely. But in less than 5 minutes they would be at their more important business again.

In the evening the colony was moved to another place. The next morning the robbers were out again. Then came their downfall. Their hives were turned half way round, which completely confused them nearly all day. The next morning they were turned back, and slightly confused again. If necessary I meant to repeat the turning but have not been bothered since.

Conclusion: Try to locate the robbers. If found, don't fail to completely disturb them in some way. E. S. ROE.

Todd Co., Minn., April 19.

Backward Spring.

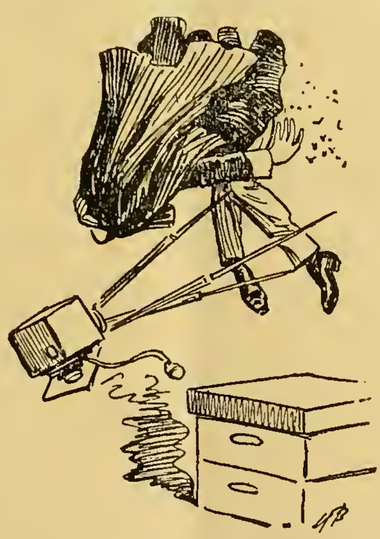
Spring is backward, and hard on bees. It is not so cold, but it rains a great deal. Apples are just blooming.

J. O. GRIMSLEY.

Overton Co., Tenn., April 24.

Photography and Bees.

There is a man in Rogers Park who is an enthusiast in bee-culture. He has achieved a measure of success, and supplies his immediate neighbors with a superior quality of honey at a normal price. So he is naturally proud of his hives.



" *Rear Elevation—Cross Section.*"

One of his neighbors is equally enthusiastic over photography, and so it came about that the bee-man invited the camera-man to take a picture of the hives. So the photographer came and planted his tripod, while the honey-man posed beside the hives.

While adjusting his camera, with the cloth over his head, the picture-maker became aware of a loud buzzing inside the cloth. Supposing it came from an ordinary fly, he shook the cloth impatiently. The buzzing became more angry, and he began to move his arms and flop the cloth. That spoiled the picture, for two or three bees jabbed their stingers into him simultaneously, and he jumpt into the air, upsetting the camera and uttering loud cries.

"What do you do that for?" said the bee-man; "just keep quiet and they won't hurt you."

"Won't hurt me, you lunatic," responded the camera-man, gathering up the wreck

Western Bee-Keepers!

If you want the finest and best up-to-date goods made do not fail to send for our large, illustrated catalog for 1900.

We sell the ROOT GOODS,
and sell them at factory prices.

IMMENSE STOCK
ready for prompt shipment.

—Address—

Joseph Nysewander, DES MOINES IOWA.

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HATCH with the perfect, self regulating, lowest priced first class hatcher—the **EXCELSIOR Incubator**

Hatches the largest per cent. of fertile eggs at the lowest cost.

Circulars free. Send 6c. for Illus. Catalog.

GEO. H. STAHL, Quincy, Ill.

44A26t Please mention the Bee Journal.

Wanted An experienced man to take full charge of an apiary of 200 colonies of bees, for wages or on shares. Address

18A3t E. C. FEATHERS, Royalton, Wis.

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PATENT WIRED COMB FOUNDATION

Has no Sag in Brood-Frames.

Thin Flat-Bottom Foundation

Has no Fishbone in the Surplus Honey.

Being the cleanest is usually workt the quickest of any foundation made.

J. A. VAN DEUSEN,
Sole Manufacturer,
Sprout Brook, Montgomery Co., N.Y.

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☞Root's Goods at Root's Prices☜

POUDER'S HONEY-JARS and everything used by bee-keepers. Prompt Service—low freight rate. Catalog free. **WALTER S. POUDER,**
512 Mass. Ave., INDIANAPOLIS, IND.

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☞ IF YOU WANT THE **BEE-BOOK**

That covers the whole Apicultural Field more completely than any other publisht, send $1.25 to Prof. A. J. Cook, Claremont, Calif., for his

Bee-Keepers' Guide.

Liberal Discounts to the Trade.

Please mention Bee Journal when writing

Here we are to the front for 1900 with the NEW

CHAMPION CHAFF-HIVE,

a comfortable home for the bees in summer and winter. We also carry a complete line of other SUPPLIES.

Catalog free. **R. H. SCHMIDT & CO.**
Sheboygan, Wisconsin.

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EGGS From Barred **PLYMOUTH ROCKS** Thorobred, Fine Plumaged Fowls. Farm Raised—75c per dozen.

MRS. L. C. AXTELL, Roseville, Ill.

15Atf Please mention the Bee Journal.

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and climbing over the fence rapidly. "Won't hurt me! I tell you they *have* hurt me, and I believe *you told* them to do it. You and your bees be hanged!"—Chicago Daily News.

Is Onion Honey Injurious to Bees?

The winter of 1898–99 I lost 20 colonies that I built up on the nucleus plan. June 30, 1899, we had a hard freeze which killed all the bloom, and in August I fed the 20 colonies, expecting a flow in the fall, which we did not get. The season being extremely dry, all colonies filled the hives with honey gathered from onion bloom, of which there was a nice crop planted for seed.

In February, 1900, I noticed that my bees were dying at a rapid rate. I examined the hives, and found the combs black, and the honey strong. There was no other bloom last fall to speak of. My bees did not have to go over 10 or 20 rods to gather the honey. All the old colonies came thru in good shape, but it almost cleans me out of the business.

I wish to keep bees, but if my neighbors persist in raising onion seeds, I would rather go out of the bee-business, in case of a poor season; in a good season it would be different. F. McBride.

Hardin Co., Ohio, April 21.

"Long Ideal Hive" Satisfactory.

Mr. Poppleton's explanation (page 212) of the term "Long Ideal Hive" is perfectly satisfactory to me. I agree with him about the offensiveness of the term "Long Idea." As I do not remember seeing any previous explanation, I suppose I may be excused for thinking that the new term was a mistake. Mr. Poppleton has my thanks for the correction, and I apologize to the Boiler. Wm. Muth-Rasmussen.

Inyo Co., Calif.

[The apology is accepted.—Boiler.]

Wintered Well Outdoors.

My bees wintered well on the summer stands and all are in good shape except one colony, and that was in a common box. I had to feed them. On the 7th of this month another colony came over and went in with them, so I just transferred them into a frame hive, and they are working nicely, carrying in pollen. It made a strong colony.

I get lots of information out of the Bee Journal. S. S. Simpson.

Marion Co., Ohio, April 21.

The Old City of St. Joseph, Florida.

April 9 to 14 I was cruising around in the Gulf of Mexico and St. Joseph's Bay, in search of health, recreation, and gathering of shells.

We spent one day at St. Joseph's Point; the waters were very warm, the air genial, and drest in bathing suits we waded in the briny, clear water in search of shells. Many conchs were found, and building a fire on the beach, these were boiled in a tin can, until their occupants could be removed; then washt, dried, and packt away in the boat, to be taken home, as trophies of our trip.

We sailed from here to Eagle Harbor, and spent a day; when inclination prompted we crost the narrow peninsula to the Gulf side, and reclining upon the white sand dunes, or sitting upon drift-wood, watcht the great white billows rolling in like leaping, prancing, white horses, and spreading out upon the shore.

Letters had been sent by us to fishermen campt at Ship Yard, and we sailed thither. Here were 4 crews with their paraphernalia for fishing—seines, reels, boats, etc. They had comfortable sleeping apartments in their tents, tables and benches for eating, cooking stoves protected by boards from winds, and their coffee-mill screwed to a pine tree.

One crew caught 8 barrels of Spanish mackerel one night while we were there, and numerous small shark were thrown

A HANDY TOOL-HOLDER!

Sent by Express, for $1.50; or with the Bee Journal one year—both for $2.00.

Every Manufacturer, Miller, Carpenter, Cabinet Maker, Machinist, Wheelwright and Quarryman, Farmer, or any one using a grindstone, should have one of these Tool-Holders. One boy can do the work of two persons, and grind much faster, easier and with perfect accuracy. Will hold any kind of tool, from the smallest chisel to a draw shave or ax. Extra attachment for sharpening scythe blades included in the above price. The work is done without wetting the hands or soiling the clothes, as the water flows from the operator. It can be attached to any size stone for hand or steam power, is always ready for use, nothing to get out of order, and is absolutely worth **100 times its cost.**

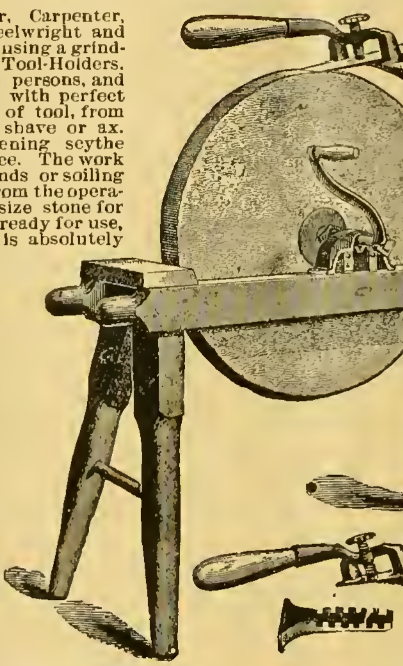
No farm is well-equipped unless it has a Tool-Holder. Pays for itself in a short time.

How to Use the Holder.

Directions.—The Tool is fastened securely in the Holder by a set-screw and can be ground to any desired bevel by inserting the arm of the Holder into a higher or lower notch of the standard. While turning the crank with the right hand, the left rests on an steadies the Holder; the Tool is moved to the right or left across the stone, or examined while grinding, as readily and in the same way as if held in the hands.

For grinding **Round-Edge Tools,** the holes in the standard are used instead of the notches.

Address, **GEORGE W. YORK & CO.,** **CHICAGO, ILL.**



Queens, Bees, Nuclei, Etc.

Having been 27 years rearing Queens for the trade on the best plans, will continue during 1900 to rear the **BEST** we can.

PRICES:

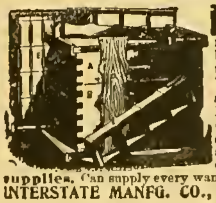
One Untested Queen.....$1.00
One Tested Queen....... 1.25
One Select Tested Queen 1.50
One Breeder.............. 3.00
One Comb Nucleus....... 1.80

Untested Queens ready in May. Tested, Selected, and Breeders, are from last season's rearing, ready now.

COMB FOUNDATION FROM PURE, YELLOW WAX.

Send for price-list of Queens by the dozen; also sample of Foundation. **J. L. STRONG,**
14Atf Clarinda, Page Co., Iowa.

Please mention Bee Journal when writing.



HONEY MONEY results from the best care of the bees. That results from the use of the best Apiary appliances. **THE DOVE-TAILED HIVE** shown here is one of special merit. Equipped with **Super Brood chamber, section holder, scalloped wood separator and flat cover.** We make and carry in stock a full line **of bee supplies.** Can supply every want. Illustrated catalogue **FREE**

INTERSTATE MANFG. CO., Box 10, HUDSON, WIS.

Please mention Bee Journal when writing.

DITTMER'S FOUNDATION Wholesale and Retail

This foundation is made by an absolutely non-dipping process, thereby producing a perfectly clear and pliable foundation that retains the odor and color of beeswax, and is free from dirt.

Working wax into foundation for cash, a specialty. Write for samples and prices.

A full line of Supplies at the very lowest prices, and in any quantity. Best quality and prompt shipment. Send for large, illustrated catalog.

GUS. DITTMER, Augusta, Wis.

Beeswax Wanted.

Please mention Bee Journal when writing.

The Mississippi Valley Democrat
—AND—
Journal of Agriculture,
ST. LOUIS MO.

A wide-awake, practical Western paper for wide-awake, practical Western farmers, stock-raisers, poultry people and fruit-growers, to learn the science of breeding, feeding and management. Special departments for horses, cattle, hogs, sheep, poultry and dairy. No farmer can afford to do without it.

It stands for American farmers and producers. It is the leading exponent of agriculture as a business, and at the same time the champion of the Agricultural States and the producer in politics. **Subscription, One Dollar a Year.**

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DON'T BE DISCOURAGED

Page 12 Wire 58-inch Fence will hold your stock.
PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.

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BEES QUEENS Smokers, Sections, Comb Foundation And all Apiarian Supplies cheap. Send for FREE Catalogue. E. T. FLANAGAN, Belleville, Ill.

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California! If you care to know of its Fruits, Flowers, Climate or Resources, send for a sample copy of California's Favorite Paper—

The Pacific Rural Press,

The leading Horticultural and Agricultural paper of the Pacific Coast. Publisht weekly, handsomely illustrated, $2.00 per annum. Sample copy free.

PACIFIC RURAL PRESS,
330 Market Street, - San Francisco, Cal.

Please mention Bee Journal when writing.

upon the shore. What silvery beauties these fish are, with 3 rows of polk-a-dots on their sides; how delicious they were when cookt upon a charcoal fire in our boat.

A short distance away was the site of the historic city of St. Joseph, once having 5,000 inhabitants, but now not one or a single residence. Its desolation reminded me of the prophecies of Jeremiah; her wharfs are gone, nothing of the railroad remains except the ties, which are of pitch pine, and as sound as when laid, nearly a century ago, the third railroad in the United States. Yellow fever, tidal waves, hurricanes and forest fires wiped her out of existence. The rattle-snake has his hole, wild turkeys rear their broods, the doe and her fawn skip over her brick pavements, and an occasional bear growls and panther shrieks.

The captain had told me that there were many bee-trees in the swamp back of the town site, and I had brought along a globe bee-veil expecting a heap of fun getting wild honey. But I had forgotten to bring any bait; the ax was not along and the captain said he could not go into the swamp on account of snakes, so the project had to be reluctantly abandoned.

MRS. L. HARRISON.
Washington Co., Fla., April 17.

Colonies Wintered Strong.

I wintered 7 colonies in the cellar; they came out strong and are building up very fast. Young bees are hatching out every day. They have more than two combs of brood now. The prospects for a big crop of honey are good, and I think the bees will hustle me around pretty lively, as I lack a great many things necessary to properly take care of a large crop from 18 colonies, being only a beginner. (I have just bought 11 colonies more.)

If this weather continues a few days fruit-bloom will be out. Bees are very busy today carrying pollen, and are getting some honey.

GEO. A. OHMERT.
Dubuque Co., Iowa, April 22.

Apiaries in Fine Condition.

Reports from all of my Wisconsin apiaries are that the bees have wintered almost without loss, and are in fine condition.

FRANK MCNAY.
Columbia Co., Wis., April 19.

Prospects Favorable.

My loss in bees the past winter was one colony out of 84. Those alive are in good condition at present, and the prospects are favorable for a good honey harvest.

F. C. SNYDER.
Jones Co., Iowa, April 21.

Bees Troubled with Moths.

On page 630 (1899) Illinois asks, "What is the matter with my bees?" and says that "for a long time they have been bringing out dead brood from the hives in the nymph stage, and also full-grown bees." Also on page 667 (1899) the man who boils beedom down mentions a smaller wax-worm reported by Dr. Miller in Gleanings in Bee-Culture, and winds up by asking if the Doctor has made a new acquaintance, or whether it is only our old friend *galleria cereana* in a different role.

It is well known that the common wax-moth, or at least the one that some bee-keepers dread so much, completely destroys the combs and leaves them a mass of filthy webs. There is a smaller kind called the "center-moth." The name is appropriate, for it works in the brood-nest (which is the center of the colony) and in the center of the combs. It is the terror of nuclei and weak colonies, and sometimes injures strong ones. Its presence in the brood-nest is indicated by one or more mature young bees with their heads bare (they being unable to leave the cell), and also by bare-headed brood, tho I am not sure that it causes the bare-headed brood in every instance. When the bees start in after these moths they go clear thru the combs. When you see combs that have been used in brood-rearing full of holes, as if made for passageways, the center-moth has been there.

I do not know why it should be called center-moth, for I am sure it does not eat wax. True, it makes passageways from one cell to another, and thru the dividing-wall between the cells, but I have seen them come out of the bodies of dead bees which they had fastened in the cell with their webs. When you pull out one of those bees you will have to look into the cell quickly before it wriggles out of sight into some other cell. They sometimes pull out with the bee, but not every time.

Being desirous of increase the past season (1899) I used the nucleus plan, but by the help of a bad season and the center-moth I made a failure of it. One nucleus which became infested in May was left to itself to see what would become of it. By the middle of September it was weak in numbers, had no honey for winter, the combs full of holes, and most of the mature brood fastened in the combs with webs.

My bees are blacks, Italian-hybrids, Carniolans and Adels. Only the two latter ones were free from the pest the entire season. Strong colonies seem to be better able to withstand them than the weaker ones. But who is it that rears queens and has them all fertilized in strong colonies? I would be glad to find some means whereby I can be master of the center-moth. Who can do anything for me?

CHESLEY PRESSWOOD.
Bradley Co., Tenn.

Carriage and Harness Business.—It is not so very long ago that any stock article, however much of worth or durability it had, lackt, as a rule, all elegance of design. In other words, it had no style. Fortunately, all this is now past. The article of moderate cost has a character and finish that could not be had a few years ago except in high-priced made-to-order goods. It is nowhere more noticeable than in some of the modern lines of vehicles and buggies now being offered direct to the consumer by means of advertising. Take the catalog we have just received from the Kalamazoo (Mich.) Carriage & Harness Company, since it illustrates the principle referred to. Their goods equal in every way, so far as we can see, the product of certain factories which cater exclusively to the wealthy, and sell their vehicles by old methods of high-priced salesmen and expensive repositories in many leading cities. By such concerns, vehicles apparently no better than these are sold at from three to four times the price. In dealing direct with the Kalamazoo Carriage & Harness Company all expenses, such as city stores, salesmen, margins for bad accounts, etc., are saved. You pay only one profit, and that a very modest one. It is impossible for us, within the limitations of this paragraph, to give more than a hint of the complete line of the Kalamazoo Company. The catalog in itself is a very handsome one, and is an earnest of the good things inside. There are vehicles of every conceivable style, and all at very low prices. Every condition of taste, need and purse are met. The farmer who looks first for service, then for economy and cost, finds these qualities combined with a certain exclusiveness of design which will make his rig a noticeable one when he drives out; while the town and city man who wants more of lightness and elegance will not turn elsewhere unsatisfied. The Kalamazoo Carriage & Harness Company are strictly manufacturers, and not jobbers. Every vehicle they sell is produced in their own works, and is guaranteed. The foregoing holds good, too, regarding their harness lines, which the catalog covers fully. Send for a copy and verify for yourselves that nothing but personal inspection will do the book and its contents justice. Address, Kalamazoo Carriage & Harness Co., Kalamazoo, Mich., and mention the American Bee Journal when writing.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, April 19.—Market is well cleared of white comb honey; a little choice has sold recently at 16c, but dark and mixt goods are slow of sale. Extracted, white, 8@9c; amber, 7@8c; dark, 6@7c, according to quality and package. Beeswax in good demand at 28c.

R. A. BURNETT & CO.

CINCINNATI, March 3.—There is some demand for extracted honey from manufacturers at 7@7½c for amber and Southern; clover, 8@8½c. Comb honey is selling firm at 14@16½c in a small way. Beeswax, 25@27c.

C. H. W. WEBER,
Successor to Chas. F. Muth & Son and A. Muth.

BOSTON, March 9.—Our honey market is showing some signs of lower prices, altho the stock on hand is not large. At the same time prices are so much higher than previous years that the trade have taken it very slowly and the results are that the holders are willing to range prices quite a little in order to move stock on hand. Prices range: Fancy white, 17@18c; No. 1, 15@16c; amber, 10@12c; buckwheat almost unsalable. Extracted, best white California, 8½c.

BLAKE, SCOTT & LEE.

KANSAS CITY, Mar. 19.—We quote fancy white comb, 15c; No. 1, 14c; No. 1 amber, 13c; No. 2 amber, 13½c. Extracted, white, 8c; amber, 7c; dark, 6c. Beeswax, 22@25c

C. C. CLEMONS & CO.

DETROIT, Apr. 23.—Fancy white comb, 15@16c; No. 1, white, 14@15c; amber and dark, 10@12c. Demand and supply both limited. Extracted, white, 7@7½c; amber and dark, 5@6c. Beeswax, 26@27c.

M. H. HUNT & SON.

BUFFALO, April 20.—For strictly fancy white one-pound comb honey we are getting 16@17c. Any grade sells high—10@15c, as to grade.

BATTERSON & CO.

NEW YORK, April 9.—Market is practically bare of comb honey of all description. Little lots arrive here and there and sell readily at from 10@11c for buckwheat and 12@15c for white, according to quality and style of package. The market is well supplied with extracted, which we think, however, will be moved before the new crop arrives. Beeswax is in good demand at from 27c to 29c per pound.

HILDRETH & SEGELKEN.

SAN FRANCISCO, Apr. 11.—White comb, 11½@12½c; amber, 8@10c. Extracted, white, 7½@8c. light amber, 7@7½c; amber, 5@5½c; Beeswax, 26@27c.

Stocks of last crop are nearly exhausted, with present business in the same mainly of a light jobbing character at practically same rates as lately current. New crop is expected to put in an appearance in quotable quantity inside of 30 days. The yield north of Tehachapi will be a fair average, but very light south of the point named.

OMAHA, Mar. 13.—Demand shows some improvement in January, having been much more active, but as anticipated there is no advance in prices. Market remains steady at 14@14½c for fancy white comb and 8½c for white extracted. The latter is pretty well cleaned up along the Missouri River, and it looks as if there would be some shortage before another crop comes in. From present appearances there is about enough comb honey to go around at the present prices, hence we look for no particular change in values.

PEYCKE BROS.

Illinois.—The spring meeting of the eastern part of the Northern Illinois Bee-Keepers' Association will be held at the residence of William Farnham, 4 miles southwest of Rockford, Ill., on Tuesday, May 15, 1900. All are cordially invited.

B. KENNEDY, Sec.
New Milford, Ill.

ALBINO QUEENS If you want the most prolific Queens—If you want the gentlest Bees—If you want the best honey-gatherers you ever saw—try my Albinos. Untested Queens in April, $1.00; Tested, $1.50.
12A26t J. D. GIVENS, LISBON, TEX.

Italian Queens One Dollar Each. Queens from our select stock during May and June, $1.00 each. Orders will be bookt and filled in rotation.
16A4t D. J. BLOCHER, Pearl City, Ill.
Please mention Bee Journal when writing.

We have a Large Stock on hand and can ship promptly.

SEND US YOUR ORDERS FOR

Hives, Extractors

OR ANYTHING YOU WANT IN THE BEE-KEEPING LINE.

WE MAKE ONLY THE BEST.

Our Falcon Sections and New Process Foundation are ahead of everything, and cost no more than other makes. New Catalog and copy of THE AMERICAN BEE-KEEPER free. Address,

THE W. T. FALCONER MFG. CO.,
JAMESTOWN, N. Y.

☞ W. M. GERRISH, East Notingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.

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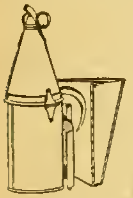
MADE TO ORDER.

BINGHAM BRASS SMOKERS

made of sheet-brass which does not rust or burn out should last a life-time. You need one, but they cost 25 cents more than tin of the same size. The little pen cut shows our brass hinge put on the three larger sizes.



No wonder Bingham's 4-inch Smoke Engine goes without puffing and does not

DROP INKY DROPS.

The perforated steel fire-grate has 381 holes to air the fuel and support the fire.

Prices; Heavy Tin Smoke Engine, four-inch Stove, per mail, $1.50; 3½-inch, $1.10; three-inch, $1.00; 2½-inch, 90 cents; two-inch, 65 cents.

Direct-Draft Perfect
BINGHAM
BeeSmoker

BINGHAM SMOKERS

are the original, and have all the improvements, and have been the STANDARD OF EXCELLENCE for 22 years. Address,

T. F. BINGHAM,
Farwell, Mich.

I ARISE

To say to the readers of the BEE JOURNAL that

DOOLITTLE...

has concluded to sell QUEENS in their season during 1900, at the following prices:

1 Untested Queen	$1.00
3 Untested Queens	2.25
1 Tested Queen	1.25
3 Tested Queens	3.00
1 select tested queen	1.50
3 " " Queens	4.00
Select Tested Queen, last year's rearing	2.50
Extra selected breeding, the very best	5.00

Circular free, giving particulars regarding each class of Queens, conditions, etc. Address,

G. M. DOOLITTLE,
11A26t Borodino, Onondaga Co., N. Y.

Please mention Bee Journal when writing Advertisers.

23rd Year **Dadant's Foundation.** 23rd Year

Why does it sell so well?

Because it has always given better satisfaction than any other.
Because in 23 years there have not been any complaints, but thousands of compliments.

We guarantee satisfaction.

What more can anybody do? BEAUTY, PURITY, FIRMNESS, No SAGGING, No LOSS.
PATENT WEED PROCESS SHEETING.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

BEE-KEEPERS' SUPPLIES OF ALL KINDS.

Langstroth on the Honey-Bee, Revised.

The Classic in Bee-Culture—Price, $1.25, by Mail.

Beeswax Wanted at all times.

CHAS. DADANT & SON,
Hamilton, Hancock Co., Ill.

Please mention Bee Journal when writing.

DR. MILLER'S

Honey Queens

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GEORGE W. YORK, Editor.

AMERICAN BEE JOURNAL.
ESTABLISHT IN 1861 OLDEST BEE-PAPER IN AMERICA
DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS.

40th YEAR. CHICAGO, ILL., MAY 10, 1900. No. 19.

CONTRIBUTED ARTICLES

Cement Foundation Mold or Press.

BY ADRIAN GETAZ.

REFERRING to my description of a cement foundation press, on page 402 (1899), a correspondent asks the following questions:

1. How strong should the frame be for the mold? Is one inch by one inch square all right?
2. What kind of wood should it be?
3. How is the cement paste made, with or without sand?
4. Will not the wood swell by keeping the mold wet awhile, and then shrink away from the cement when drying?
5. How would you combine the mold and press so as to be a perfect success?

I will answer the above questions in the same order as they are askt.

1. I don't think it is material, only the frame should be made of such a size as to give the mold a sufficient thickness. There is no strain at all on the frame, and all that is needed is to confine the cement while hardening, and fasten the hinges. As to the thickness of the cement plates, mine are 1¾ inches thick, and backt with a strong piece of plank of about the same thickness. It depends what kind of press is used. If the press has large platens, the mold would not need to be more than one inch thick, and well leveled so as to fit between the platens when prest. If the pressure is applied between two cross-bars like mine, then the molds should be either of sufficient thickness to prevent its breaking, or backt by a piece of plank. Mine was made to use plaster-of-Paris, and is thicker than would be necessary for cement. The press was already made, and is used mostly for a different purpose.

2. The kind of wood is immaterial. I used pine 1¾x2 inches.

3. The paste was made without sand. The sand might make the surface coarser.

4. No, not in my case. It was, however, Southern pine, very resinous. You must recollect that wood swells and shrinks only across the grain, and not in length; and the swelling and shrinking of a piece only one or two inches thick does not amount to much.

5. I don't know. The combination that I would try first would be to fasten the "book" on a strong frame, and have the frame holding the screw hinged to it, as shown in the illustration herewith.

Knox Co., Tenn.

⁂

The Premiums offered this week are well worth working for. Look at them.

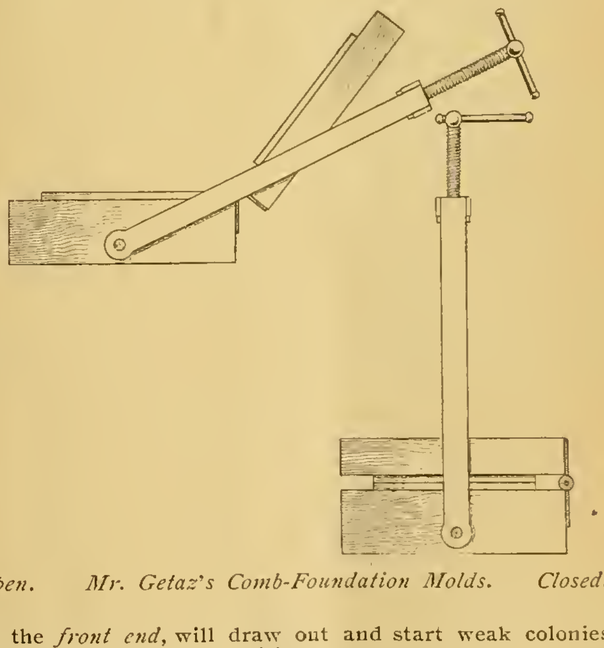
NO. 7.—COMB HONEY PRODUCTION.

Bait-Combs—Adjustment of Supers—Value of Daily Weighing.

BY R. C. AIKIN.

THE management of supers during the honey-flow is a matter requiring good judgment and skill. It will not do to put on a lot of sections and then let the colony do the rest—that is, if you will get best results. It requires a close watch and a pretty nice estimate of what a colony will do, to know when and how to adjust supers.

I try to have bait-combs in the first super put on, and if there is a little honey in those baits all the better. The position of the baits in the super I vary according to supply and demand. If I have plenty to supply each first super, I usually put two in each corner, or a row thru on each side, or a row in the center, or possibly one in each corner, and two or more near the center. When in the corners or outer rows, it tends to start and keep the outsides going so as to be complete as soon as the center. A center row will not finish the super nearly so even. Having but few baits so that I have to economize to make them go around, I put in one to four usually near the center. The center position, or at the *front end*, will draw out and start weak colonies quicker than the other positions.



Open. *Mr. Getaz's Comb-Foundation Molds.* *Closed.*

If you can have any unfinisht sections, be sure to use them for baits. Even if some of them are half or two-thirds full of honey use them; the ones with honey are as good as any. Those with old honey, especially if dark or candied, just mark by an "X" or some simple pencil-mark on the top, then when cleaning and casing put them into culls or No. 2 grades. The baits often make two or three days to a week of difference in the time that the colony will take to the super, and that may make all the difference between swarming and not. Baits are of such importance in a weak flow, and with the weaker colonies, that I would use them even if the honey had to be extracted, the combs being dark or otherwise off-grade.

Once the super-work is begun, as soon as the first one is one-fourth to three-fourths full, lift it and put a fresh one under. Notice whether the flow is free or slow, and judge about how soon the first super will be filled. I say *filled*, not finisht. A super may be full, but not sealed, and when full should be lifted and a new one put under. A colony may, when strong and the flow free, fill two, or even three, supers before the first is ready to come off.

So I say, watch the rapidity of the flow, and how fast the supers are being filled. If the gain is at the rate of five or six pounds a day, a six-pound gain means about three to four of honey; six days would just about fill a super. If the work is so rapid, do not wait until the first super is more than one-fourth to one-half full before putting on the second. With a much slower flow wait until the first is two-thirds to three-fourths full.

Sometimes it is best to put the fresh one on top of the other. The flow may be slow and the weather very hot. If the filling is going on tediouslike, and at the same time the heat drives the bees out, put the fresh super on top, if there seems to be probable need of another on at all. A colony will pass thru the full one to the top to work if there is need, yet the full super being below and nearest the brood-chamber, they will complete it even if an empty is above. Just how freely a colony will pass thru a full or nearly full super to an empty above, depends on the strength of the colony, the freeness of the flow, and the temperature.

At the first end of the flow I take more risk of getting too much room, particularly putting *empty* supers under ones partly workt, because the tendency to the swarming-fever is *very much* greater at that time, and I give the room and put the partly workt super *on top* to stretch the colony and relieve the brood-nest. After the flow has been on *two* weeks or more, the bees seem to forget about swarming and push the honey-business, and then they will stand more crowding than before.

Another object in placing the empty super on top, is that the other will be filled more compact and even. Should we stretch the colony too much by putting empties under partly filled, we are liable to get a lot of light-weight sections, and also poorly attacht to the wood. A colony working *up thru* the nearly full one to an empty, will almost invariably finish that full one well, that is, fill the sections *plump*, if there is a flow sufficient to induce them to work that upper one at all. They should be watcht, and as soon as the lower super is filled ready to seal, raise it to the top so they will not travel over it so much while sealing. Then, too, the closer the sections are to the brood while being sealed, the more likely to mix old, dark wax in the cappings. Also, right at the top I suspect is the better place to ripen the honey, because of the heat.

When the flow is coming to a close, is the time to use the greatest care about stretching too much, and having a lot of unfinisht sections. The best we can do will usually leave us quite a lot of unfinisht—such I use for baits the next year. If by close watching I can judge of the flow, I time the super arrangement so that the last super is workt up thru the next to the last one put on, until the latter is ready to seal, when it should be raised. If there is a time that the colony will stand crowding, it is at the close of the flow. Then is the time to disregard the lying out of the bees, and crowd them so they will finish the last plump.

Just at this stage is another place that a strong colony shows its superiority. Having kept them pretty well crowded the latter part of the flow, they naturally have the brood-combs pretty well packt with honey, and the last few days, when the flow is "tapering off," they will move up some of the honey to make room for breeding, and so help finish the sections.

But how may we tell of the rapidity of the flow? The best way to do this is to keep a colony or two on scales, and weigh daily. By so doing you come very near knowing just to the day when the flow starts and stops, and its variations. The ups and downs of the super-work will not tally exactly with the scale tally. The scales will show two, even three or more, days of nice gain before the supers do, and likewise the super work will continue proportionately beyond the gain shown by the scale record.

The nectar, when first brought in, is mostly retained in the honey-sacs for ripening, being unloaded very unripe only when the supply is so great they can not hold it all. From the time in the morning that enough nectar is brought in to load the sacs of the inside workers, all the rest of the day the bees are carrying around their loads of nectar. If it comes in too fast for them, they stick it in wherever there is an empty cell, often putting small drops here and there (everywhere) about the combs where there is a little cup or cavity that will hold a drop, later gathering it up and storing it regularly where wanted. Thus it happens that for one or two days, and to some extent for three or four days, after the flow has practically ceast, the work goes on in the sections. Honey in full cells down close to the entrance, and in parts of the hive where it is in the way of breeding and pollen storage, is removed to the sections. Don't you see how you can soon make a cheap scale pay for itself—one of the $2.50 to $3.50 kind sold by supply dealers?

Larimer Co., Colo.

What Should Hives Be Placed On ?

BY J. L. STRONG.

When I first began bee-keeping, more than 30 years ago, I thought two bricks good enough to set a hive on—one under the front end of the old-style Langstroth hive, and the other under the rear. The first was laid flat on the ground, and the other on edge, to give the required slant to keep the entrance dry. This did very well for a few hives, but when I had 50 or more I wanted something better, so I tried stakes driven in the ground. To do this quickly, and have the stakes just where you want them, make a frame large enough to go over the hive without touching. Drive a stake in each corner of the frame, and you have a stand that is easily leveled, and will be good until the stakes rot. The rotting of the stakes is the only trouble with the plan.

I next procured 100 tiles. Those with a piece broken out of one end are just as good as any, and cost little or nothing at the factory. I soon had 25 hives sitting on them, with no great amount of work—much less than would be required to replace the stakes when rotten for ten years, unless more lasting wood was used than I have usually had.

In the spring of 1899 I found some stakes broken off, and having nothing suitable for stakes, I was looking for something when I came across some long-neck bottles that had been in the way for some time. The thought came to me that they would be just what I was looking for. So I put the long neck of the bottle in place of the rotten stake, thus accomplishing a double purpose—getting rid of the bottles and making a permanent stand for my hives.

This pleased me so well that I began to wonder how I could get as many as I would want. I accordingly offered a boy five cents per dozen for long bottles. They began to come in by the dozen in baskets, in little wagons and other ways until I will have all I want, notwithstanding the fact that I will put out 150 additional nuclei, and set them all on bottles, as I think them the cheapest and best of anything that I can get.

In the spring of 1899 I found my bees in fair condition, having wintered them in cellars. The season, tho late, was quite favorable after April 10. They increast in bees and brood, and gathered honey nicely until the latter part of June, when the dry weather checkt the bloom, and honey came in very slowly for the balance of the season; altho there was enough gathered to keep robber-bees from being troublesome.

My 100 colonies are now in fine condition, as nice and clean as when they were put in Nov. 11, 1899, about two weeks earlier than they are usually put in the cellar.

QUEEN REARING AND FERTILIZATION.

Can queens be fertilized above a queen-excluding honey-board while a queen is laying below?

In 1893 I procured Doolittle's "Scientific Queen-Rearing," having been much interested in what had been previously publisht in the papers on that subject; and especially on the advantage of superseding a queen at pleasure, without the trouble of hunting and destroying the old queen below. But after repeated trials I have nothing but failure to report. The bees would accept and build out the cells in an upper story, and the queens hatcht as I expected them to do, but invariably would get lost before commencing to lay.

Being quite anxious to succeed if possible, I determined to try again the past summer on a little different plan. Having a number of cells in an upper story with an excluder between, I placed an oilcloth on the excluder at one side of the hive. After cutting off all cells but one, I brought the frame with this one on it, then put an excluding division-board between these three combs and the balance of the hive.

I now awaited results with great hope of success, and when I lookt the next day and found the queen crawling over the combs as if she were at home, I thought that I was on the right track, and closed the hive to await results.

About three or four hours later I again opened the hive, and found her on the division-board, the workers following her as tho they would kill her. I took the three frames and queen and placed them in a band-box, and set it beside the hive. I thought they would realize their condition and take care of the queen; but when I lookt again she was dead. This makes about 50 queens that I have lost in this way. I may try again this season a three-story hive.

Page Co., Iowa.

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Moving Bees Short Distances—Spring Dwindling

BY G. M. DOOLITTLE.

QUESTIONS keep pouring in, with the request that I answer in the American Bee Journal, and as long as they do so it will be mostly answers to such questions that I shall give in these columns; but in answering I shall try to go somewhat into the minutia of the thing, explaining as fully as possible, so that perhaps the matter may be as interesting to the general reader as articles from my own selection would be. The first question lying before me is regarding moving bees short distances, and reads as follows:

> "I wish to move my apiary of 40 colonies about one-fourth of a mile to a new place which I have bought, having rented thus far. How can I do this and not have the bees go back to their old location on their first flight? Also, tell me how I best can move them."

ANSWER.—The best way to move bees in early spring is on a sled, if there is snow, and I should use a sled with broad or wide runners, or a stone-boat, even if there was no snow, providing that the roads were soft, or very rough, as they almost always are in early spring. If the roads are smooth and hard, then a wagon is a good thing for moving bees, especially where one with springs can be used. No matter what vehicle is used to do the moving with, all but the spring-wagon should have plenty of straw on the bottom to take off or help neutralize any sudden movement or jar which may come from the moving vehicle.

Where bees are to be moved from a few rods to not more than 20 or 30, a stretcher, made by using two poles with canvas or some kind of stout cloth attacht to each, the same being used by two men to carry two hives, is better than anything else. Bees can be moved in this way where care is used, and they not know they have been disturbed at all.

Having decided on the kind of vehicle to be used when doing the moving, the next thing is to know *when* the bees should be moved. Whenever bees are confined to their hives in the spring from a week to ten days by rainy, cold, snowy, or stormy weather, they will mark their location anew on their first flight afterward, the same as a new swarm marks its location upon its first flight after being hived; so, should there come a few days of stormy weather, so as to keep the bees in their hive, then is your time to move them; and it is well not to delay more than six days from the time they flew last, or warm weather may suddenly come upon you, when you will not be able to move them till after another stormy spell, without its costing you more work than is required at such a time.

After they are moved, if warm weather is delayed, you are safe in any event. Should no such cold or stormy time come, then I would move the strongest of the colonies, and let the weaker ones be strengthened by the returning bees from those thus moved. If this is done, it is well to move the weaker ones partially toward the stand of those moved, so the returning bees may not fail to find this weaker colony, from the greatness of the intervening distance between it and the old stand of the colony moved. But if the stronger and weaker colonies stood farther than 10 feet apart, this plan can not be adopted, for a success can not be attained in drawing bees much farther than five feet from their old location, even tho their own hive stands that near to where it formerly did. If you move the weaker colony more than the five feet you lose whatever bees may fly from that, and it is well not to lose a *single* bee in the spring of the year, where the life of that bee can possibly be saved, for one bee at this time of the year is of more value than 50 in August.

Should no stormy time come, as spoken of above, and the bees must be moved, and should it not be advisable to adopt the strengthening plan, then move them in the evening, or on some rainy day when all are in their hives.

After they are on the stands in the new location, go to the first hive and blow in smoke at the entrance. After the first two or three puffs, commence to pound with the fist on top of the hive, pounding as you smoke, striking say five or six blows, when you will pass to the next, treating it the same way; and so on till 10 to 15 have been thus treated. When you have done this, go back to the first one and treat it the same way again, and so on till you have past over the whole number (10 to 15) again. Such treatment will cause them to mark their location over again, but not as fully as will the stormy weather; and by way of an additional help, along the marking line, it is well to stand a wide board up in front of the entrance to each hive when you are thru smoking and jarring them. This board should be wide enough so as to darken the entrance to a considerable extent, and so as to turn the bees to one side when they fly the next time. In this way bees notice at once that something is wrong, which causes them to mark their location anew; otherwise some would start off in a straight line as usual, and come back to the old location and be lost.

The old place should be cleared of everything which would look homelike to the bees, where stormy weather has not prevailed before they were moved, which helps much in the matter. Then, after all, if we go to the old place when the bees first fly, we will find many bees hovering about in spite of all we have done; but after careful watchings for many years, I am satisfied that all such bees finally go back to the new location, if they have been treated as here given.

PREVENTING SPRING DWINDLING.

> "As I understand it, spring dwindling comes about by a bee or two at a time leaving the hive in unpropitious weather until all are lost. If this is right, why can not it be prevented by placing wire-cloth before the entrance to keep the bees from flying when the weather is not fit?"

ANSWER.—So far as my experience goes, it is *never* best to confine the bees to the hive by placing wire-cloth over the entrance, except when they are to be moved some distance, or shipt when a sale is made, and in these cases wire-cloth placed *only* at the entrance often ruins the colony if it be a strong one, where there is necessity for keeping it there more than half an hour or so. The matter seems to be like this:

When the few bees which act as sentinels go to the entrance from any cause, and find their exit is cut off, they at once communicate this fact to the rest of the colony, when more bees come to go out, and finding they are not able to do so they begin to bite the wire-cloth, and make a fuss generally, till the whole colony is aroused, and a commotion caused to such an extent that the meshes of the wire-cloth are clogged with bees so that no air can get thru. When this happens, the bees become very hot, or heated like fermenting vegetation, the honey in their honey-sacs is disgorged till the bees become all wet and daubed, when they perish with a sufficient heat often to melt combs.

There can be no assurance that this may not happen at any time, unless the weather is so cold that it causes the bees to cluster compactly, and were bees to be shut in hives when so clustered, the apiarist would need to be on hand, when the weather moderated, to take off the wire-cloth, or a loss would occur. I doubt whether there can be any means used in unpropitious weather in the spring by which bees can be kept from flying out of the hive, that will not cost more than the benefit derived will amount to.

Where bees are in chaff hives they are not so easily enticed out every sunshiny day, when the air is too cool for them to fly safely. If a wide board is placed sloping in front of the entrance, so as to exclude the rays of the sun from the entrance and lower part of the hive, bees will not venture out unless the air is warm enough for them to fly safely; but as these boards have to be removed every time the weather is suitable for the bees to go out, I doubt about enough bees being saved to pay for the trouble. I have practiced this to quite an extent in former years, but of late I do not, because I do not think it pays where a person has much else to do.

Then, spring dwindling is not the result of a loss of the few bees that chance to go out for forage when the weather is unpropitious, but from the result of poor wintering, where the vitality of the old bees is worn out, so that they go out of the hive to die, and not for forage. A real case of spring dwindling can not be remedied by keeping the bees in the hive, for they would die in the hive just the same as tho they were allowed their liberty. At least this is the conclusion I have arrived at after a careful watch along these lines for more than a score of years.

The remedy for spring dwindling is successful wintering.

Onondaga Co., N. Y.

Belgian Hares and Bees—A New Combination.

BY PROF. A. J. COOK.

THE Belgian hare industry has attained marvelous proportions in an exceedingly short time in Southern California. Our own county of Los Angeles is the center, the city of Los Angeles being the focus. For a new business to gain standing so quickly argues that it is more than a fad. This fact becomes emphasized when we learn that some of our most clear-headed business men are engaged in this Belgian hare propagation. One of the best business men I know in Southern California belongs to a firm that is said to have invested $25,000 in this new industry.

The Belgian hare, like the shorthorn cow, has been so carefully bred that its habits are very much modified. Its growth and vigor is something remarkable, its prolificness is exceedingly great, and it is so neat that it can be bred and cared for in the small compass of a dry-goods box and yet retain its vigor, health, and fecundity.

It has often been askt if there is not danger in introducing this new comer into our State and country. May we not repeat the experience of Australia in importing the European hare into that country? The law first suggested by Darwin—that introduced species are always likely to manifest greater vigor and prolificness than is shown by the native, closely allied species—should always make us wary to contemplate any such enterprise. As I have stated in our public meetings, where this matter has been under discussion, I do not think the danger need be feared in the case of the Belgian hare. Like the shorthorn, the Belgian hare is bulky, fat and logy. This rabbit, therefore, while admirable for feeding and breeding, would be illy adapted to succeed in the struggle of life out on the plain or in the bush. I think in such a case the excellence of his flesh would soon be tested by dog or hound rather than by human epicure. I have never seen the Belgian hare on the race-track, but from viewing him from the show-box or rabbitries so common in this region, it has never seemed to me that he could be any match at all to the cotton-tail or jack-rabbit. This latter has a hard enough time in its struggle against dog, coyote, and the hunter. I greatly doubt if the Belgian hare could exist at all.

We know that the care and domestication of the silk-moth by man has made it so dependent upon him for its food and protection that were we to cease rearing silk-moths for one year, it would cease to exist. In developing the splendid insect with an eye single to silk-production, we have utterly destroyed its ability to care for itself. I think the Belgian hare is, like the silk-moth, only to a less degree, less qualified to fight its own battles. I believe running wild and extermination would go together. Another reason why this danger would be minimized comes in the very value of these animals. Like the lost coin, the whole country would be swept and garnisht to find a single missing rabbit. Therefore, I do not believe we need to fear the introduction of this valuable animal into our State and country.

I have alluded to the great value of these animals. I have heard of cases where $250 or $300 have been paid for a single male. Of course, this shows that great pains has been taken to develop these animals in the way of prolificness and meat-production.

WHY IS THE BELGIAN HARE SO VALUABLE?

There are several points in this business which will aid to foster its rapid development. The Belgian hare puts its entire energy into growth and reproduction. Thus it exercises very little, and a large number of rabbits can be kept in a small space. I know of a rabbitry of over 100 individuals kept wholly in dry-goods boxes. These rest on a platform about three feet from the ground. The whole space occupied by the rabbits is less than three rods square. Thus the man in the city is not precluded from engaging in this business.

Again, the animals are so neat that ill-health is hardly likely to interfere with success. I have heard of only one case where any one has had any loss from disease. In this case there was a sore lack of knowledge of the business. I think it is as safe as anything in which one can engage.

Again, the cost of keeping rabbits is very light indeed. A friend of mine, who is a very careful man, estimates that when hay is $9.00 a ton, two cents per month will keep a full-grown rabbit. It is said that alfalfa hay alone, dry and green, will do for food. It is probable, however, that they might do better with a greater variety.

It follows from the above that it will cost very little to produce meat. Another friend said to me a few days since, "I can produce the meat at a good profit if I can get nine cents a pound." When we remember that it sells readily now for 20 cents a pound, we understand why the business is so profitable. The excellence of the meat is also a substantial argument in favor of the industry. Even epicures smack their lips in rehearsing the excellencies of the rabbit for table use. We had these on our table more or less for a week with very little intermission, and we all pronounced the meat first-class in quality, even to the last meal.

THE FUTURE OF THE BELGIAN HARE INDUSTRY.

It is often askt, "Will not the excitement soon pass by, and the rabbits fail to pay expenses?" When we remember the millions of mouths to be fed, the appetizing character of the meat, and the cheapness at which it can be produced, I doubt if we need fear that it will be soon overdone. Many prefer the rabbit to chicken, and 12 to 15 cents a pound is paid for chicken pretty generally thruout the country.

BEES AND RABBITS.

One disadvantage that the bee-keeper labors under comes from the fact of off years. One off year is frequent, two off years in succession not uncommon, and he is a lucky apiarist who has not had more than once three successive off years.

Again, the bee-industry does not claim the whole time of the bee-keeper all the year, and he may well add another string to his industrial bow. Poultry-keeping has often served admirably for this extra string. I believe the Belgian hare will even eclipse the hen in this desired comradeship. I have a neighbor who lives between here and the foothills. He has a large apiary which has only been an expense now for over two years. I frequently pass by his place on my way to the canyons. As I have seen his brood of children—a very large one, by the way—I have felt pity for the household, despite the fine flock of chickens which adorn the home yard. I feel less pity now, as the gentleman told me the other day that he had made over $600 clear in Belgian hares during the last year. I am thus led to say: "*All success to a co-partnership between bees and the Belgian hare.*"

Los Angeles Co., Calif.

Dots by the Apicultural Wayside.

Read at the Wisconsin Convention, held at Madison, Feb. 7 and 8, 1900.

BY JACOB HUFFMAN.

THIS subject embraces so much, and presents so many topics, that I am at a loss to know what points to select that would prove the most beneficial. The magnitude of scientific apiculture would occupy a natural lifetime. Were we to go back no further than the last century, and show the wonderful developments made in this one branch, its profits, incomes, and the immense increase of colonies, the revenue that it brings to this country, it would by far excel any other rural branch in point of profit from the capital invested.

The history and working of the honey-bee are wonderful indeed, affording man a great and beautiful study, as well as a good income for the time and labor given. From historical facts we are led to believe that the honey-bee has been a companion of man from the earliest civilization. Scientists have given this one subject deep thought; they have been able to trace the little busy bee far back in the dim dawnings of history, and unlike many other things no change has been made in the bee itself—it works without rules, plumbs or guides, but the habits, dispositions and instinct of the bee have been studied by man. The great researches must be attributed to man. The bee, ever unchangeable only by constant handling, becomes more submissive.

Science has also demonstrated some of the wonderful results that have occurred by application of certain principals, and new light has dawned upon the bee-keeper's pathway.

It might be well for me to give a short history of my own experience, and a few practical thoughts on my own observation.

About 23 years ago I started with four colonies in box-hives. By the help of a friend who had some knowledge of the bee, we succeeded in getting them transferred into movable-frame hives.

Pardon me if I add here a meed of praise to Mr. Langstroth for the invention of the movable-frame hive, introduced about 1850, which opened up a wide field of study—in fact, it was the invention of the age, regarded so by intelligent bee-keepers, and upon it has hinged most of the progress that has been made since.

I transferred quite early, and by dividing I increast my apiary from 4 to 12 colonies, ready for winter quarters.

All came out of the cellar the following spring in good shape, and with the help of the gentleman before mentioned, we made our own hives, and, by dividing, by fall we reacht 50 colonies, with a surplus of about 300 pounds of extracted honey.

Well, you may imagine my feelings—I considered myself a full-fledged bee-man—yes, may I say, an expert in bee-culture!

I put the bees into a bee-house for winter quarters, and awaited results.

Spring came, and to my chagrin I had 8 colonies instead of 50! Shall I say it was the best lesson I ever had in apiculture? Yes, for it was. Then I commenced aright, cautiously and carefully. I secured a few Italian colonies, my first ones having been black bees, and Italianized the whole apiary. I then commenced as an amateur apiculturist. I found that what I did not know would fill a volume of 600 or 800 pages, largely illustrated. I state this for the encouragement of beginners. No matter what your failures may be, or have been, if you have studied your locality, studied the experience of older and wiser heads, and do not come too hastily to conclusions, you will be sure to succeed.

Since 1882, with the exception of dry seasons, or those too wet, I have realized more clear profit from my bees than from the farm.

There is comfort in the knowledge so often exprest—experience is the best of teachers. I believe a man will best succeed who loves bee-keeping. Other industries can be successfully carried on when followed only for the profit, but I think it necessary to love bee-culture in order to succeed.

I have at two different times started, or carried on, apiaries at a distance of 2½ to 6 miles from the home-apiary, but I found they added greatly to the work already on hand, so I sold them. I do not condemn the handling of several apiaries if a man has plenty of help that understands the business, or is willing to put forth a persistent effort to bring about the best results.

Bear in mind that it is a very easy thing to overstock your fields. In such cases I would advise the scattering out of the colonies. In my locality I can easily keep from 100 to 150 colonies if the season be favorable.

I believe the great problem in successful wintering of bees is plenty of young bees in the fall, and plenty of good honey in store. See that all are in good shape for winter late in the season. A good cellar for wintering is where the temperature is easily kept above 40 degrees, and well supplied with pure air. I have tried a few colonies out-of-doors several winters. I like the idea of packing, but I think it is not enough better than cellar-wintering to pay for the extra labor.

Misfortunes or accidents often develop important truths. By observation I have found that cold and frost are deadly enemies. Cellar-wintering requires the least consumption of food, and the least amount of respiration and exertion. I believe it to be the most perfect system—I mean one that will invariably produce the same results.

A system of wintering bees, in which the conditions are likely to be different each year, can never be a perfect one. We can, of course, have uniformity of stores when wintering in the open air, but the severity and irregularity of the weather are beyond our control.

Speaking of last year, one would naturally conclude that bee-culture was becoming less profitable. By investigation we learn the profit in bee-culture is just being reacht, while basswood in some sections is being thinned out, and by heavy drouth and severe winters the white clover may be killed out for a season, or even more. Plants with their honey-producing qualities have been studied, so that it is possible for bee-keepers to produce their own pasturage to a certain extent. Good locations are more carefully selected, and to have necessary articles for convenience at hand, add to the scientific handling and the remunerative proceeds.

Time and space forbid speaking of many things I would like to mention. I would like to touch the subject of queen-rearing—I like home-bred queens better than imported ones. Mr. Doolittle informs us that American breeders take more pains than they do over the water. He thinks many are taken from a promiscuous selection, taken from second and third swarms, therefore are not likely to build up and make good honey-gathering colonies.

I would also like to mention the subject of bee-pasturage, and the profit in running for extracted honey over that of comb honey when the season is short. I would like to say something in regard to our foul-brood law; I would advise that subject to be agitated thruout America. Brother bee-keepers, we must fight our greatest enemy if we succeed.

It is not true that all can keep bees successfully—only such should undertake it as are by nature adapted to it, and will give it the same thoro, continued application as is required to make any branch of business profitable. Bee-culture demands more study, more skill, than any other rural employment, hence our ranks are not likely to swell to great dimensions. No honest employment can be little in any sense. What we need is more little successes and less big failures.

Green Co., Wis.

◆

A Short Sermon on Progress and Reforms.

BY L. L. SKAGGS.

LET'S come down to facts and not fancies, and see which is best. What do we want with silent letters? Would you keep three horses when two will do your work? The extra one is in the way, costs something to feed it, and care for it in general. And so it is the same with silent letters. I have askt professors all my life what good they did, and so far I have failed to find one that could tell. Their answer is, "Oh, it is customary." So we keep on in the same old rut, and will not try to get out; and if any one tries to help us out, we make a terrible noise, and sit back. If we like old ways, let's go to China—we can get them there. Oh, my, what a fuss people do make at any improvement!

In 1874 and 1875 I lived in Southern Texas, where the people were nearly all Mexicans. For illustration, I will try to tell how they made their plows. They cut a tree that had two limbs that set contrary to each other on opposite sides; one they used for a handle, and on the other they fastened a sharp, pointed piece of iron, to tear up the ground; and the main body was for a beam. Well, you would split your sides with laughter if you could see one, and see the work it does. You can't tell which way their rows run. The corn looks as if it had been scattered broadcast. And what a crop of weeds they would raise, and get about 8 or 10 bushels of corn per acre. Now they tell me they raise from 40 to 50 bushels. While I was there the owner of the ranch sent a lot of improved plows to the ranch, for his hands to work with. The owner was a white man. Well, if you could have heard what a fuss they made about those plows, you would not wonder at people kicking at reform spelling. They said the owner of the ranch was the biggest fool they ever knew. No, sir, they would not try to use those plows at all.

I have never known any improvement offered to the public but what there was a great kick; and if the improvement is not backt with money it is put aside.

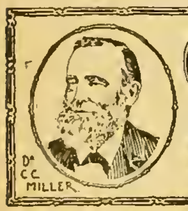
To be sure, there is no one to put up money on simpler spelling, because it is the children that need it. The old folks have gotten into the habit of plowing with forkt sticks, and carrying rocks in their sacks to balance with their corn, so they think it is death to quit. Now, let's have some reason. We know that everything we do is good or bad, one or the other, so if silent letters are of no use, drop them. It is the readers who have to suffer, not the editors. The more type the more paper and ink they use, and then the more our reading will cost. It is not for the good of the editor at all. He charges according to the work and outlay. If it was for the good of the editors, reform spelling would be adopted in less than six months, and the readers would never get a vote at it. No, sir, we would never get a chance to kick at all. Did the A. I. Root Company let us vote on the changes in their catalog? If they did, I never knew of it.

Less than a week ago an old man, who has a better education than I have, drove 10 miles over as rough road as I ever saw, in the rain, to get me to order some bee-hives for him. He could not understand Root's catalog. Don't think he is behind on bees, for he has the prettiest lot of hives I know of, and his bees are well bred up. I showed him a copy of the American Bee Journal, and he was delighted with the improvement in spelling. I haven't found any one yet but what says it is a good thing for the future. I can't see anything but selfishness that would cause anybody to kick against the spelling reform. Any one can tell who is selfish by the way some threaten to stop taking the Bee Journal. I have always heard just such threats at anti-whiskey elections. Take heed from that. I have known men that were very prominent to get frightened and vote with the whiskey crowd so as to be on the popular side, and thus ruin themselves. The whiskey men won't support them in an election; they have no confidence in a man that they can turn. Everybody admires a man that will do his duty, and let the world say what it may.

Look at Lincoln. Suppose he had been turned and easily frightened—we would be buying and selling God's people to-day as if they were corn or wheat. Be sure you are right, and then go ahead. Take Christ for your leader; he is safe and sure. Men are like the wind—you never know when to depend upon them.

Suppose Gleanings in Bee-Culture would listen to some people, and stop its home talks; where do you think it would go? That would give it a set-back in the Christian homes, and they are the ones that have spread it over the land. I hope I may see the day that Jesus can get room in every book and paper in the land; then we will not be afraid to send money to an advertiser, and the get-rich-quick fellows will have to go to work like all honest people. Wheadon, the crooked commission man in Chicago, a few years ago, tried very hard to get my honey, but I simply refused to have anything to do with him, because his quotations never appeared in the American Bee Journal. Oh, what a kick he did make at Editor York; but kicks against an honest man do him more good than harm.

Look at the newspapers—what attention do we pay to their advertisments? I have never taken a newspaper but what would advertise anything for money. How much respect have we for the editors of such papers. The more people kick at a good thing the more good people will like it; and that is one sign it is gaining ground; for that is what causes the worst kick. We find the same thing in regard to temperance. Llano Co., Tex.



QUESTIONS AND ANSWERS.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Italianizing Colonies of Blacks.

I would like to ask about Italianizing black colonies of bees, referred to on page 38. I see that your Italian colony, which we will call No. 1, gets to breeding up and swarming first. When it swarms, put the swarm on the stand of No. 1, and set No. 1 in place of another strong colony, say No. 2, setting No. 2 in a new place, and so on. I would like to know if the flying bees from No. 2 going into No. 1 won't be stung to death? That is what I understand by reading and talking with bee-keepers. MAINE.

ANSWER.—No, no danger. At a time when bees are swarming, the returning bees always come in from the field laden, and will be kindly received. At a time when no honey is coming in there might be some danger, in some cases great danger that bees would be killed, but when honey is yielding, bees are very good-natured about being mixt up.

Dividing for Increase.

1. How shall I divide a double 8-frame Langstroth hive to produce comb honey in order to get surplus from both colonies, the original hive having brood in both stories?

2. If this cannot be done successfully, what is my best method of dividing them? IOWA.

ANSWERS.—1. It is somewhat doubtful whether you can manage any way that will give as much honey from the two as by keeping the force united. You might do it in some places where there is a heavy flow late in the season, but hardly in Iowa.

2. This way might answer: Pick out the frames with least brood and put in one of the stories with the queen, setting this story close beside the old stand, leaving on the old stand the other story containing the eight frames that have the most brood, doing this just before swarming-time. If no queen-cells were present when this was done, there will be some ready to hatch in 10 days or more. So 9 days after making the division, move to a new stand the queenless hive, and the depletion will discourage the bees so that only one queen will survive.

Using Combs Again in a Case of Supposed Bee-Paralysis.

I had a colony die last fall from a disease that I believe was paralysis. The hive is full of good combs. Would you advise me to put another swarm into that hive, and leave the old combs, or should I melt them up? PENN.

ANSWER.—I hardly know, but there might be no great risk in using the combs again, if you are sure it was nothing worse than paralysis, which is not generally a very bad thing as far north as Pennsylvania.

Caged Queen and Swarming.

Will placing a caged queen in the hive produce swarming? If so, about how soon after putting in the queen will it result? MINNESOTA.

ANSWER.—I don't know, but I should have little faith in it. A sealed queen-cell would be more likely to produce swarming. If conditions for swarming were unfavorable, the cell would be unceremoniously torn down. If conditions were favorable, a sealed cell might (this is only a guess) produce swarming in 3 or 4 days.

Spacer-Nails—Wide Bottom-Bars.

1. Can you sell me some of those spacer-nails, or where can I get them?

2. Why do you want so wide a bottom-bar when a comb is only ⅞ inch? MISSOURI.

ANSWERS.—1. You can get them in any hardware store. Just common 1¼ inch wire nails. If your hardware merchant keeps more than one weight, get the heavier ones, with heads 3-16 across. That's the kind he is most likely to have if he has only one kind. To drive them in the right depth, use a block ¼ inch thick with a slit sawed in half an inch. Or you can make a very good work by having a stick ¼ inch thick and holding it beside the nail. A nail made with a special head to drive just deep enough would be just the thing, but you can't get them.

2. I've hardly used them years enough to be entirely certain it is best to have such wide bottom-bars. The chief object in having them so wide is to prevent building comb between them.

When to Put on Sections.

1. When is the proper time to put on sections?

2. I use Hoffman frames and put in foundation starters 2 inches wide. Is it necessary to use separators?

3. Is it advisable to put supers on swarms that come off in June and July? NEW HAMPSHIRE.

ANSWERS.—1. The old rule is to put on supers when you see bits of white wax along the top-bar and upper part of the comb. The rule is a very good one if you have no objection to swarming, but if you desire to avoid swarming in every possible way, it is better to have supers on a little sooner. In New Hampshire your first storing in supers is probably from white clover. If you watch *very closely*, you will see a scattering blossom of white clover some 10 days before the general bloom, and you will do well to put on supers within 3 or 4 days of seeing this very first clover bloom.

2. I'm not sure whether I understand you. Hoffman frames are used only for brood-frames, and it certainly is not necessary to have separators between brood-frames. It is generally best to have separators between sections, if the sections are to be packt for shipping, but for home use separators can be dispenst with.

3. With right management, yes. Put your prime swarm on the old stand, with the mother colony close beside it, and a week later set the old colony in a new place. Twenty-four hours after hiving the swarm, take the supers from the mother colony and give to the swarm.

Divisible Brood-Chamber Hives and Fixtures.

1. As I am thinking of adopting the Heddon hive I would like to know why you do not use it, as it seems to me to possess great advantages.

2. Mr. Heddon's patent is supposed to cover horizontally-divisible brood-chambers; if I use the Danzenbaker or dovetailed hives—two bodies to the brood-chamber—do I infringe on Mr. Heddon's patent? If not, why not?

3. If I use close-fitting closed-end standing frames, like those used by the Rauchfuss brothers, of Colorado, in ordinary dovetail bodies; do I infringe on the Heddon patent, which is supposed to cover these constructions?

4. What was the thickness of the combs in those 4¼x5-x1¼ sections?

5. Will you feel like using more of them this year?

YANKTON.

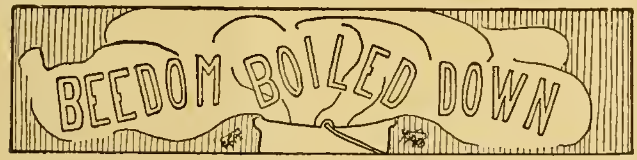
ANSWER.—1. I do not see enough advantages in them to make it worth while to try them. If you do, you certainly ought to try them.

2. Others claim that such things were in use before the issuance of Mr. Heddon's patent. The fact that they are in common use with no prosecution for infringement makes it probable that you would be running no risk by using two bodies to the brood-chamber.

3. I think the Rauchfuss brothers are not supposed to infringe on any patent.

4. About 1⅛.

5. Being well stockt with fixtures for the old kind, I shall not go heavily into the new. In such things each one must carefully study his own market.



The Rapidity of Bees' Wings is something marvelous. A. Gustin says in Le Rucher Belge that when bees are ventilating, the wing-beats are more than 400 in a second. Pretty fast work.

For Stimulative Feeding the following is said by Bulletin de la Somme to increase brood-rearing: Boil 4 pounds of wheat-bran ½ hour in 7 pints of water. Strain, add 2 pounds of sugar, 4 or 5 pinches of salycilic acid, mix thoroly, and give to each colony 2 or 3 pounds of this preparation at a single feed.

One or Many Foul-Brood Inspectors for a Province or State is a question somewhat discust. At the Ontario convention there were reasons given on both sides. It takes lively travel, and much of it, for a single inspector to get around, but he has more power than local inspectors, and more experience.—Canadian Bee Journal.

Early Bee-Pasturage is discust by G. M. Doolittle in Gleanings in Bee-Culture. Skunk-cabbage comes first in his locality (Onondaga Co., N. Y.,) blooming somewhere from March 25 to April 20, yielding pollen but no honey. A week or ten days after skunk-cabbage come the pussy willows, of which there are several kinds, some being a month later than others, yielding pollen but no honey. The first honey comes from golden and white willow, plants of great importance, from which, when the weather is right, a colony may store 10 to 15 pounds of honey. They yield no pollen. Their greatest value comes from their yielding at a time when they so largely affect the building up of a colony. With favorable weather during the blooming of these plants and during fruit-bloom, colonies are in best shape for the clover and linden harvest.

Queen-Excluders Make the Difference of opinion between large and small hive men, says H. H. Hyde in the Progressive Bee-Keeper. With excluders in use, the queen never has a chance properly to spread herself, so the excluder man thinks a small hive is large enough. Mr. Hyde wants no queen that is not able to have 12 frames filled with brood by the commencement of the honey-flow, and he has had queens at that time with 18 frames of brood.

"**A Trust, or Co-operation,** needed in bee-keeping," is the heading of an editorial in the Bee-Keepers' Review, which ends by saying:

"I believe that this question is one that might be profitably discust. If there were some way by which we bee-keepers could know what the crop is as soon as it is off, and could then decide what prices ought to be, and would all stand by those prices, it would be accomplisht. Sounds simple enough, but how can it be done?"

To Avoid Bubbles in Bottling, here is something that seems important from H. Rauchfuss, in the Progressive Bee-Keeper:

"In bottling honey, it should be of a certain temperature, no more and no less, to avoid incorporating bubbles of air. If too thick, the down-flowing stream of honey will waver from one side to the other, lapping over itself when it reaches the honey in the vessel, thus enclosing streaks of air. If too thin, it will pierce right into the honey below, dragging down the air with it in the form of small bubbles. It should be of just the right thickness to spread out in the form of a cone when it strikes the honey below, neither depressing its surface nor piling upon it, but uniting with it at once whenever it touches."

Black Brood.—Dr. Howard's words with regard to the New York bee-disease are not very reassuring. He says in Gleanings in Bee-Culture:

"Here is a disease in which it is strongly suspected that flying bees are affected; and of these, thousands daily leave their hives never to return, scattering the germs far and wide, to be borne by the strong winds, or wafted by the gentle zephyrs to new fields of infection.

"In conclusion let me say that sufficient evidence has been presented to show that we have something new, and at present, apparently, more malignant and more destructive than the worst enemy hitherto known; but careful, practical, and experimental work in the presence of this disease when at its worst will, I feel confident, discover some practical plan for its successful eradication."

Closing Hive-Entrances.—In reply to an inquiry, Dr. Miller tells in Gleanings in Bee-Culture how he closes the entrances of hives for hauling, and also for carrying in the cellar if they must be carried in at a time when closing is necessary. He says:

"A proper entrance-guard that will quickly close and unclose a hive is a very desirable thing. The ones I now use are entirely of wire cloth, with a single stick to fasten them on the hive. They are made especially to suit the entrance when the bottom-board has the deep side up, making an entrance 12⅛x2, but might be varied for any entrance. A piece of wire-cloth 13½x4 inches is doubled over at the bottom, and at each end ¾ inch or less (bending it over a saw-blade), so that it will be just long enough to fit inside the 12⅛ entrance. Then a piece of lath holds it with one or more nails. This gives all the ventilation needed for spring and fall hauling.

"But the wet cloth is far and away ahead of a wire entrance-guard when it comes to shutting bees in the hive when carrying in the cellar. Shut bees in with wire, and they are more anxious than ever to get out, the excitement being mischievous. They shrink from the wet cloth, and conclude they *don't want* to get out; so the cloth can be taken away as soon as they are placed in the cellar, leaving them quiet. Ordinarily, however, there ought to be no necessity for fastening the bees in when carrying them in cellar."

AMERICAN BEE JOURNAL.
ESTABLISHT IN 1861 OLDEST BEE-PAPER IN AMERICA
DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS

PUBLISHT WEEKLY BY
GEORGE W. YORK & COMPANY,
118 Michigan Street, Chicago, Ill.

[Entered at the Post-Office at Chicago as Second-Class Mail-Matter.]

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The Subscription Price of this journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "Dec00" on your label shows that it is paid to the end of December, 1900.

Subscription Receipts.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows you that the money has been received and duly credited.

Advertising Rates will be given upon application.

VOL. 40. MAY 10, 1900. NO. 19.

EDITORIAL COMMENTS

NOTE—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

The Brosius Pure-Food Bill.—We received the following from Mr. Abbott, May 4:

> EDITOR YORK:—I have just received word that the Inter-State Commerce Committee has reported favorably on the "Brosius Bill." Very truly yours,
> EMERSON T. ABBOTT.

Every honest producer of honey will be glad to hear the above. Now, we trust the House will approve the report of the committee, and that the Senate will concur, and thus the long-hoped-for National anti-adulteration legislation be completed.

The Question of Separators or No Separators is one upon which there always has been a difference of opinion, and it is not likely there will ever be entire agreement. One man says he has straight enough work without separators, another says he has not. As a matter of fact, the work may be alike in both cases; but one man is more exacting in his requirements than the other. A man who ships honey to a distance, whose honey will be handled by careless and inexperienced hands, needs sections built more true than one who produces honey merely for his own use, or who furnishes sections to a grocer near by, with whom he keeps in close touch.

Under favorable conditions good work may be done without separators. Those conditions, however, are not always—perhaps not often—under the control of the bee-keeper. Under any and all conditions one is sure of straight work with separators; so it is probable that the general trend will be toward the general use of separators; and, indeed, that seems to have been the general trend for some time.

Bees for House-Apiaries Should Be Gentle.—So says, in his circular, Mr. Jewell Taylor, son of the lamented B. Taylor, who has had experience with house-apiaries, and favors their use. Mr. Taylor says:

> "If you contemplate building a house-apiary do not stock it with anything but gentle bees. Handling bees that stampede over the outside of their hives is a disagreeable task under any circumstances, and is especially so in the house-apiary."

Barrels for Honey do not suit C. Davenport. He says in the Bee-Keepers' Review that he has never been able to get any that would not leak honey after a time, no matter how well made, seasoned, tightened, and waxt. He had a large alcohol barrel full of white honey, and before he knew it the barrel was empty from leaking. He thinks of having several cans of galvanized iron large enough to hold 1,000 pounds of honey each, these cans or tanks standing high enough so the honey can be drawn from them into shipping-cans. After the honey has stood in these cans 24 hours all impurities will rise to the top to be skimmed off, so it will need no straining.

Organized Marketing has an earnest plea made for it by R. C. Aikin, in Gleanings in Bee-Culture. He cites the case of a local organization of fruit-growers of which he is a member. He picks his fruit and delivers it at the depot, and there his care of it ends. The manager ships it to so much better advantage than he could, that Mr. Aikin gets more net money than if he shipt himself, and has none of the trouble. He says:

> "The manager or shipping agent puts himself in communication with all possible customers or outlets for fruit, selects his customers before the fruit is ready, has access to commercial reports, etc., and, when the shipping season is on, he gets daily quotations showing supply, demand, and prices in the various localities. The growers deliver the fruit some time before trains are due out, and the agent ships according to supply and demand. If the supply here exceeds orders, he divides the surplus, shipping it to the market that is most likely to be able to use it, favoring the most reliable customers. This avoids a glut in one place and a scarcity in another, and results in far less numbers of losses, both of overripe or soft fruit because of delay, and in defaults of payment by irresponsible firms. Besides the saving to shippers in this way, any unavoidable losses are prorated among the members, and the association bears this loss, and not individuals."

Light-Weight vs. Full-Weight Sections.—The problem of the section is a many-sided and a perplexing one. Not the least troublesome phase is that of weight. There is no question that in many, if not most markets, light-weight sections are most called for by grocers. Vigorously do many bee-keepers object to light-weight sections, and in some cases, at least, there is good ground for the objection. The grocer wants to buy by weight and sell by the piece, or, to put it very bluntly, he wants to buy at the actual weight and then sell for a pound a section that weighs less than a pound. There is nothing immoral in producing or selling sections that weigh 13, 14, or 15 ounces each, *providing* they are sold for what they are, with no deception. If each section is weighed and sold at so much per pound, it matters little whether the weight be 13 or 18 ounces.

But some insist—and they give good reasons for insisting—that every section should be sold by the piece. It is also insisted that every section should be full weight. No man living can produce a crop of section honey without considerable variation in weight, and if it is insisted that no section shall fall below 16 ounces, then there must be many which shall exceed that weight.

This one thing, however, ought to stand out clear: If the grocer sells sections by the piece, he ought to be willing to buy them the same way.

Wild Bees and Honey in Connecticut.—The Country Gentleman of recent date contained the following paragraph concerning the wild-bee-and-honey "industry" in Connecticut:

"A despatch from Winsted, Conn., to the Hartford Courant says that the extent to which hunting for wild honey is carried on in that section is not generally known. One of the Winsted hunters says that there are probably 15 to 20 men there who engage in the business, more or less, and take up altogether nearly a ton of honey in the season. He estimated that in Litchfield County there were nearly 100 bee-hunters, and that their gatherings amounted annually to 8 or 10 tons. As the honey is worth about 20 cents a pound, these figures make the value of honey gathered in the woods in Litchfield County nearly $4,000. Canaan Mountain is said to be one of the best localities. Over 20 trees were found there last fall, yielding from 50 to 100 pounds each. The flavor of the wild honey of this region is said to be much more delicate than that of the domestic product."

"We were not aware before that Connecticut "bee-keepers" had so many apiaries that were not only out-apiaries, but also up-apiaries as well. Perhaps our giving the above notice a wider reading will cause an overstocking of bee-keepers in that locality. That would be a variation from the occasional complaint of an overstocking of *bees*. What a fine field for the old-time as well as the new-time bee-hunter that must be. And it seems their efforts are not unrewarded. However, *in this locality*, we prefer to continue to keep bees on the earth, instead of in trees. Of course, localities often differ!

A New Comb Foundation.—Henry Vogeler, of California, has patented an improvement in comb foundation that seems to have possibilities in it, altho only actual experiment in the hive can decide its real value. The improvement consists in a subsequent operation, after the foundation has left the mill. Mr. Vogeler says:

"I form the comb foundation or series of cells with very thin walls—that is to say, with walls which are as thin as experience has shown to be practicable—and I provide the same with thickened rims or outer edges. The said rims may be produced by laying on melted wax with a brush. This construction secures two important advantages—namely, it greatly strengthens the foundation, and renders it more rigid, so as to better resist injury in shipment and attachment to comb frames, and it provides surplus wax for use of the bees in lengthening the cells to approximate or equal natural cells in depth. Such lengthening is effected by the bees drawing out and thinning the beadlike rims until they are reduced to the same thickness as the adjacent interior portions of the cell-walls.

"I prefer that the thickness of the beads or rims shall be gradually reduced from the top of the foundation, where the greatest strength is required, downward to the bottom or lower end, where the cells are constructed in the usual way, or without thickened rims."

Formation of Spores.—Dr. Wm. R. Howard gives in Gleanings in Bee-Culture the following interesting information:

"*Bacillus milii* belongs to a form known as *endosporous*—spores formed within the bacillus or germ. *Bacillus thoracis* belongs to the so-called *arthrosporous* form, in which the spore separates itself from the rod or germ by fission or transverse section, and does not form within as in *Bacillus milii*. In some species spore-formation takes place only when the pabulum is about to be exhausted, and remains at rest until a new nutritive medium is furnisht, when they vegetate and again become *bacilli* or germs. There are other species which form spores when the conditions are most favorable for a continued development. The spore-formation of the germs under consideration belongs to this latter class.

"The relation of spores to germs is quite similar to that of seeds to plants. Spores possess a greater resisting power to drying, heat, chemicals, atmospheric changes, etc., than do the germs themselves. Spores of *endosporous* bacteria are more resistant than those of the so-called *athrosporous;* accordingly, spores of *Bacillus milii* would have greater resisting power than those of *Bacillus thoracis*, all other things being equal; but *Bacillus milii*, being *anærobic*, growing better without oxygen or atmospheric air, the exposure of these germs or their spores to the atmosphere would possibly prove detrimental to their vitality. While *Bacillus thoracis* is *ærobic*—thrives better in the atmosphere, it would possibly resist atmospheric influences for a longer period. The spore formation of *Bacillus alvei*, the germ of foul brood, has been carefully studied, and, altho *endosporous*, and retires to the spore or resting stage only when the food medium has lost its nutritive qualities, the spores lose their vitality in 24 to 36 hours when exposed to the atmosphere. [Author's *Foul Brood*, p. 21.]"

A Lively Picture of Swarming is thus given in the Australian Bee-Bulletin:

"A swarm! A swarm! Where from? They are flying all about the place. Quietly wait. Look at the entrance of each hive, and around same. Now where are they issuing from? We are too late to see. Perhaps it might be here. See those newly-born bees outside. They are too young to follow the rest of the swarm, and are about the front of the hive. But look, what is that cluster on the ground about two feet away? Yes, sure enough it is the queen, she was clipt and couldn't fly, and a few faithful attendants are sticking to her. We pick her up carefully, put her in a cage, then open the hive. Yes, only a few bees are left. What is the matter? See, here are queen-cells. Cut them out, then liberate the queen on the combs. See, the swarm is coming back. Just watch them running in. What a hurry they are in."

But some of the particulars are at variance with the usual course on this side of the globe. It is unusual to find a cluster of bees with the queen before the return of the swarm. She generally scrambles for herself till after the return of the swarm, and she is likely to be among the first to get back home. It is by no means the rule that the queen will be found on the ground with a cluster of bees, in this country. Neither is it often the case that the bees are so slow about returning that there will be time to cut out queen-cells before their return.

Queens Not Balled Thru Robbers.—H. Mulor says it is incomprehensible to him how bee-keepers of experience can think that queens are balled or lost because robbers have entered and attackt them. The robbers are intent upon just the one thing of getting booty, and don't trouble their heads about the queen. Much more reasonable to say that robbing occurs because the queen has been balled. In nine cases out of ten the balling occurs, not thru field-bees or robber-bees, but thru young bees between 5 and 14 days old that have strayed into the wrong hives. When hives stand near together and young bees are out for play, the wind often blows them to the wrong entrance.—Maehrische Biene.

York's Honey Calendar for 1900 is a 16-page pamphlet especially gotten up to create a demand for honey among should-be consumers. The forepart was written by Dr. C. C. Miller, and is devoted to general information concerning honey. The latter part consists of recipes for use in cooking and as a medicine. It will be found to be a very effective helper in working up a home market for honey. We furnish them, postpaid, at these prices: A sample free; 25 copies for 30 cents; 50 for 50 cents; 100 for 90 cents; 250 for $2.00; 500 for $3.50. For 25 cents extra we will print your name and address on the front page, when ordering 100 or more copies at these prices.

The Weekly Budget

HON. EUGENE SECOR, General Manager of the National Bee-Keepers' Association, has been appointed a member of the legislative committee of the National Pure Food and Drug Congress, representing the State of Iowa. No better selection could have been made.

* * * * *

"THEY DEST MAKE HONEY."—Mr. E. S. Roe, of Todd Co., Minn., sends us the following:

"I am very fond of children, and last evening I was delighted to make the acquaintance of a bright little girl only three years old. Her manner of talk was very bright and attractive. We finally talkt about the bees, and when she was askt what her papa's bees made, she said: 'Oh, they don't make anything. They dest make honey—that's all!'"

* * * * *

COMMISSION SWINDLERS GROWING LESS.—The National Produce Review, of April 21, referring to South Water Street, Chicago, gives this encouraging paragraph:

"In speaking of the condition of the Chicago commission street, the manager of R. G. Dun Co. stated the other day, that in all his 20 years' experience, he had never known the street to be so free from swindlers as it is at present. This paper believes it is entitled to some credit for this condition of affairs."

True, and the American Bee Journal had at least a little to do with helping to clean out some of those who were swinding the honey-producers.

* * * * *

STENOG, in his department "Pickings from Our Neighbors' Fields," in Gleanings in Bee-Culture, usually begins with an original stanza. The one appearing April 15 is this:

The drizzling rain, the swelling buds,
The song of birds in trees,
All speak of spring's return at last,
And end of winter's freeze.

Speaking of poetry, reminds us of a little experience we had a few years ago. Some chap who evidently was trying to earn a living by writing alleged poetry, sent us a sample, with the suggestion, "Pay expected." The particular sample referred to imagined a young lady smelling of a fragrant rose in which a bee had grown. We responded with the return of the poem, saying that we did not use much poetry in the American Bee Journal, and added, using about the same meter and accent as he had written—

But when we do,
It must be true.
A bee never grows
Inside a rose.

* * * * *

MR. J. W. WINDER, of Louisiana, was reported in Gleanings in Bee-Culture for April 15, as having died April 8. Here is what Editor A. I. Root says of him:

"The veteran readers will remember, without doubt, Mr. Winder. About the time Father Langstroth got out his first honey-extractor, Gray & Winder made a revolving-frame extractor. Mr. Winder was originally a photographer. He soon became an enthusiastic bee-keeper, attended all the conventions for years, was one of the first to rear queens and advertise them; and to the day of his death he made bees and honey his principal occupation. He died April 8, aged 71 years. I have mentioned Mr. Winder in my visits to New Orleans, and the courteous way in which he gave his entire time to piloting me around thru the different portions of the city. He held his health remarkably. Even when nearly 70 years old he would walk a dozen miles a day, and almost without fatigue. We are informed by his son, A. T. Winder, that bronchitis was the cause of his death. One more of the old veterans has past away."

We remember Mr. Winder as the Louisiana bee-keeper who used to send our worthy predecessor, Thomas G. Newman, a box of beautiful sweet-scented flowers early each spring, long before outdoor flowers were growing naturally here in Chicago. Yes, the old leaders are being removed from us. One by one they drop out, and the younger hands and hearts are left to carry on the work. How wise a provision it is, that while the workers fall the work itself goes on.

* * * * *

MR. W. A. HENDERSON, of Clarinda, Iowa, who has had an advertisement in this journal the past few weeks, offering "ox-blood tablets," has removed to the Masonic Building, Des Moines, Iowa, owing to the increase in his business, and for better facilities for reaching the trade. His advertisement this week shows the change of address as well as the new firm name. Both Mr. Henderson and his remedy come to us very highly recommended, else we would not think of allowing the advertisement to appear in these columns. We are exceedingly careful as to the character of our advertisers and the goods they offer. We will not knowingly permit anything or anybody at all questionable to appear. We want to protect our subscribers in every way possible, and trust that they will report to us any who fail to live up to the agreements they make in our advertising columns.

We have said the latter portion of the above paragraph because there are some people who don't believe in advertised remedies, or, for that matter, in medicines of any kind. That class of course are not supposed to buy them. We have no objection to offering or taking medicines that are all right and that do good if taken.

* * * * *

JOINING THE NATIONAL IN A BODY.—In the last issue of Gleanings in Bee-Culture, Editor Root says this on local bee-keepers' associations joining the National Bee-Keepers' Association in a body, at the half-rate, or 50 cents each:

"At the last meeting of the Philadelphia convention a clause was inserted in the proposed constitution by which any local society, State or county, might join the National Bee-Keepers' Association, on payment into the National treasury of 50 cents per member, *providing* that such members *went in a body*. It was urged by Mr. York, who proposed the insertion of this clause, that we could thereby secure more funds and more members—members who would not otherwise come into the Association; and so far the results in practice are as good as they were in theory. Quite a number of associations have already joined the National. At a meeting of the Chicago convention this matter was discust quite thoroly. Finally it was voted to join the National Association in a body.

"This action on the part of the Chicago Association entitles all the members of that organization to all the privileges and benefits of the National, and at the same time they do not lose any of the benefits accruing from membership in the local organization. In the case of the Chicago Association the membership fee is $1.00, and it would cost $1.00 to join the National as an individual member; but by voting to join the National in a body, that same dollar extends their privileges to those of the National."

We should think that every local bee-keepers' society in the United States would jump at this chance to get into the National. It will not only help in members, but in dollars (or half dollars) as well. We can assure all who join the National that every dollar put into its treasury will be well spent in the interest of the pursuit of bee-keeping. Already much good work has been done, and with the able men now at the head, the National will undoubtedly acquit itself nobly in the months and years to come.

The American Fruit and Vegetable Journal is just what its name indicates. Tells all about growing fruits and vegetables. It is a fine monthly, at 50 cents a year. We can mail you a free sample copy of it, if you ask for it. We club it with the American Bee Journal—both papers one year for $1.10.

◆

"**The Hum of the Bees** in the Apple-Tree Bloom" is the name of the new bee-keeper's song—words by Hon. Eugene Secor and music by Dr. C. C. Miller. This is thought by some to be the best bee-song yet written by Mr. Secor and Dr. Miller. It is, indeed, a "hummer." We can furnish a single copy of it postpaid, for 10 cents, or 3 copies for 25 cents. Or, we will mail a half-dozen copies of it for sending us *one new* yearly subscription to the American Bee Journal at $1.00.

Root's Column

SHALL WE ADOPT

PLAIN
SECTIONS AND
FENCES?

Perhaps you are debating this question now. It is not too late yet to make a trial of these goods this season, and no doubt you would like to know what has been the experience of other bee-keepers who have tried them. We have on hand some

EVIDENCE.

If you wish we will gladly send you a copy. You will find much interesting reading, and it may be worth many dollars to you. See what bee-keepers all over the United States and Canada have to say. Ask for Bulletin A. Do not delay, but send your request at once.

Do you want an EXTRACTOR this season? Investigate our

Cowan Reversible
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Extractors

We have a little pamphlet giving some information about these. Send for it if interested.

We are pioneers in the manufacture of modern fixtures for Plain Sections and Fences (as well as all other Supplies.) If you want them right, send to us or our Branch Offices and Agencies.

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GENERAL ITEMS

A Beginner's Experience.

I started last spring, purchasing two colonies and capturing one strong swarm. I now have 9 colonies in fair shape. White clover is in bloom, and I will unite and equalize for the flow at once. My bees wintered well, with stores to spare. We have an early spring and lots of fruit-bloom, which started the bees early. I had a swarm issue April 8, and the rest swarmed within 5 days. The last was a poor honey-year in this section. I got all experience, so I am now able to manage the bees this season with success.

B. T. Tiller.

Maury Co., Tenn., April 30.

Loss and No Loss in Wintering.

The reports from 15 bee-keepers in the Bee Journal for April 26, show that their total winter loss is 30 colonies, and they all report that bees "wintered well." I presume that those whose bees did not "winter well" will not report. I visited several apiaries yesterday, and all have met with some loss—one lost one-half—one other I visited a week ago lost 50 percent, and it will take until July to make full colonies of what remain.

In Gratiot and Isabella Counties the loss is 60 percent. I read in a St. Louis paper the other day that the loss in wintering bees was greater than all other losses combined. Bees are at rest during the winter months, and if properly cared for there certainly should be no loss of colonies. A few bees in each hive will die of old age, yet the loss will not be great.

Once every week the past winter, commencing Nov. 23, I have opened the storm-entrance to my hives and counted the dead bees brought out, and for the 4 months confined (I took off the storm-doors March 23) the average of dead bees was 7 per week, calling it 17 weeks. The entire loss is only 119 bees per hive. From two late swarms there was only 1 to 2 per week. Every week, at any temperature, the dead bees will be brought into the storm-sheds.

D. H. Metcalf.

Calhoun Co., Mich., April 28.

Suggestions on Paint for Hives.

I have read with much satisfaction the contribution by "Old Grimes," on how to get the most out of the hive, and for me it is not a question whether to paint or not, but *how* to paint, and I believe I have the problem solved about as perfectly as the science will permit at present. I do not claim the honor of the discovery—it is due to an honest painter.

If you should ask a professional painter to give you a formula for making the very best white paint you would receive almost invariably the following answer: "Pure white lead in boiled linseed oil with a little turpentine for drier." This would be his standard of the very best white paint. But the professional needs to be edu-

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ENGINES
—either traction, portable or semi-portable represent the greatest value that can be crowded into a machine of this kind. Simple or compound 8 to 20h.p. Unequalled for threshing, well drilling, saw mills, feed grinders, &c. Make also superior threshers, horse powers, saw mills, etc. Illustrated catalog mailed free.
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100 COLONIES OF ITALIAN AND CARNIOLAN BEES FOR SALE; all in new movable-frame hives. Send stamp for price-list.
WM. J. HEALY,
18A5t MINERAL POINT, Iowa Co., WIS.

BY RETURN MAIL.
Golden Beauty Italian Queens,
Reared from imported mothers.
Untested, 50 cts.; 12 Untested, $5.50; Tested, $1.
J. S. TERRAL & CO., Lampasas, Texas.
18Atf Please mention the Bee Journal.

SPRAYING
with our new patent
KEROSENE SPRAYERS
is simple indeed. Kerosene Emulsion made while pumping. 12 varieties Sprayers, Bordeaux and Vermorel Nozzles, the "World's Best."
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BEE-SUPPLIES 40-page CATALOG FREE. Goods are the BEST. Prices are right. We can save you some on freight. Enquire of us.
7Dtf JOHN NEBEL & SON, High Hill, Mo.
Please mention Bee Journal when writing.

The Midland Farmer
(SEMI-MONTHLY).
The representative modern Farm Paper of the Central and Southern Mississippi Valley. Page departments to every branch of Farming and Stock-Raising. Plain and Practical—Seasonable and Sensible. Send 25 cents, silver or two-cent stamps, and a list of your neighbors (for free samples), and we will enter your name for 1 year. (If you have not received your money's worth at end of year, we will, upon request, continue the paper to you free of cost another year).
W. M. BARNUM, Publisher,
Wainwright Building, ST. LOUIS, MO.
7Dtf Please mention the Bee Journal.

California Queens.
OF PURE ITALIAN STOCK.
(THREE-BANDED.)
No other bees within a radius of TEN MILES. Eight years' experience in practical bee-keeping. Untested Queens, 90 cts. each; $9 per doz. Discounts after July 1. Write for price-list.
18A13t H. L. WEEMS, Hanford, Calif.
Please mention Bee Journal when writing.

Queen-Clipping Device Free....
The Monette Queen-Clipping Device is a fine thing for use in catching and clipping Queens wings. We mail it for 25 cents; or will send it FREE as a premium for sending us ONE NEW subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,
GEORGE W. YORK & COMPANY,
118 Michigan St., Chicago, Ill.

M. H. HUNT & SON,
SELL ROOT'S GOODS AT ROOT'S PRICES.
Our inducements are first-class goods, cheap freight rates, and prompt shipments. Send for catalog. BELL BRANCH, MICH.

BEE-KEEPERS: If you want your supplies to arrive at your railroad station in neat and perfect condition, free from dirt and damage ordinarily resulting from railroad handling; and if you want your orders filled promptly with the very finest goods in the market, send to

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We Make Them and Sell Direct to You at Less Than Wholesale Prices.

Full line of Buggies, Carriages, Canopy Top and Extension Top Surreys, Open Stick Seat Surreys, Phaetons, Traps, Driving Wagons, Concords, Spring Wagons and all kinds of single and double harness. Every article guaranteed. Shipped anywhere subject to buyer's approval.

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If not satisfactory return at our expense. We save you $25 to $75, according to the job. Get our free illustrated catalogue before buying.

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FREE OX-BLOOD TABLETS for thin blood people. — Nervousness, Indigestion — Rheumatism—Female Disease—Brain Food. A SURE CURE......

This preparation contains in a concentrated form the active principles of healthy bullock's blood combined with the most valuable nerve, brain, blood and flesh producing drugs known to the practicing fraternity.

Greatest discovery of the age for suffering people. Less than a year since first put in use, and thousands are being cured every day. To convince you we give a 3 weeks' treatment free—all we ask is for you to send 10 cents to pay postage on sending it. This is safer than paying a doctor $25 to experiment on you. **3 weeks' treatment sent free on receipt of 10 cts. in stamps.**

TESTIMONIALS:

W. A. Henderson,
Dear Sir:—Enclosed find 50 cents for which please send me a 50-cent box of your Ox-Blood Tablets. The 3 weeks' treatment that you sent me free did all you claim for it. Geo. Fillman.

From Mrs. Carrie Owens, Clarinda, Iowa.
I cannot say enough in praise of Ox-Blood Tablets. I have suffered everything for months with a hurting in my head and a stomach trouble. After persistent efforts to get relief from other remedies and failed, I was cured with one box of Ox-Blood Tablets.

50 cts. a box or 6 for $2.50. Address, **W. A. HENDERSON CO.**
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Marshfield Manufacturing Company.

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Four Celluloid Queen-Buttons Free
AS A PREMIUM.

OUR TOIL DOTH SWEETEN OTHERS

OUR TOIL DOTH SWEETEN OTHERS

For sending us **ONE NEW SUBSCRIBER** to the Bee Journal for the balance of this year, with **50 cents**, we will mail you **FOUR** of these pretty buttons for wearing on the coat-lapel. (You can wear one and give the others to the children.) The queen has a golden tinge. This offer is made only to our present regular subscribers.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate, it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

Prices of Buttons alone, postpaid: One button, 8 cts.; 2 buttons, 6 cts. each; 5 or more, 5 cts. each. (Stamps taken.) Address,

GEORGE W. YORK & CO., 118 Michigan St., CHICAGO.

cated, as such a statement is at variance with the facts. While it will look nice and slick when first put on, it will commence to "chalk off," and is so porous as to be little better than no paint at all, in many instances.

If you want a white paint that will stand the weather there is nothing better than white oxide of zinc. Use strictly pure raw linseed oil to mix with it, without a particle of drier of any kind; if you can get oil that is from 8 to 10 years old it will have more body, will dry quicker, and will be a little nicer to handle in painting. White zinc will not chalk, and will stay on until it wears off if put on properly. Turpentine or japan injure the oil, but they are used by painters as it makes the paint work better. White zinc makes a very white paint, but when first put on with raw oil it has a creamy look, and it is almost impossible to do what painters would call a good job, as it will be streakt almost in spite of you. But its looks improve with age, so by the end of a year it looks all right. After the hives are painted set them in the sun, and they will dry in a short time; raw oil dries very slowly in the shade, and the sunshine does not injure it in drying.

W. S. Doner.

Pottawattamie Co., Iowa.

Wintered Well—A Warning.

Thruout the country generally I think bees have wintered well, but in certain small localities where perhaps little attention was given in the fall, the mortality was quite large. My own colonies have come thru on the summer stands thus far, but there are yet 2 or 3 weeks of critical times to tide over.

The clovers which appeared nearly all dead last fall, have come out under the heavy mantel of snow in full vigor of spring; and if we should be favored with good weather we will certainly expect a better harvest than we had a year ago.

If a kind providence spares me until the last week in August, I hope to have the pleasure of meeting with the bee-keepers in Chicago. That is, if I may expect to be better treated (not at the bar) than happened to be my lot at Buffalo 2 years ago. I refer only to the congested state of the city, and the difficulty of finding a comfortable place to rest one's weary head. If it should so happen that I am permitted to meet with Uncle Sam's "boys" in convention in Chicago, and the editor has any old scores to settle with me, he would better commence early practice at the "punching-bag" with "bare knuckles," because I would not stoop to an encounter with gloves.

I might just add, that I am in fine condition, so look out for a pleasant time. The only one of the "boys" that I feel some fear for is Dr. Mason, and the big G. M. D. Who will protect me? Perhaps Uncle Sam himself.

D. W. Heise.

Ontario, Canada, April 23.

[Now, look here, Mr. Heise, if all you think of is punching somebody, we'll try to accommodate you should you risk coming to Chicago next August. The idea of a short and fat little Canuck sending a warning in ad-

DITTMER'S FOUNDATION Wholesale and Retail

This foundation is made by an absolutely non-dipping process, thereby producing a perfectly clear and pliable foundation that retains the odor and color of beeswax, and is free from dirt.

Working wax into foundation for cash, a specialty. Write for samples and prices.

A full line of Supplies at the very lowest prices, and in any quantity. Best quality and prompt shipment. Send for large, illustrated catalog.

GUS. DITTMER, Augusta, Wis.

Beeswax Wanted.

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HATCH CHICKENS BY STEAM—with the simple, perfect, self-regulating **EXCELSIOR INCUBATOR**

Thousands in successful operation.
Lowest priced 1st-class hatcher made.

Circulars free.
Send 6c. for Illus. Catalog

GEO. H. STAHL,
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44A26t Please mention the Bee Journal.

Wanted An experienced man to take full charge of an apiary of 200 colonies of bees, for wages or on shares. Address

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PATENT WIRED COMB FOUNDATION

Has no Sag in Brood-Frames.

Thin Flat-Bottom Foundation

Has no Fishbone in the Surplus Honey.

Being the cleanest is usually workt the quickest of any foundation made.

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Sole Manufacturer,
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Root's Goods at Root's Prices

Pouder's Honey-Jars and everything used by bee-keepers. Prompt Service—low freight rate. Catalog free. WALTER S. POUDER,
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That covers the whole Apicultural Field more completely than any other publisht, send $1.25 to Prof. A. J. Cook, Claremont, Calif., for his

Bee-Keepers' Guide.

Liberal Discounts to the Trade.

Here we are to the front for 1900 with the NEW CHAMPION CHAFF-HIVE,

a comfortable home for the bees in summer and winter. We also carry a complete line of other SUPPLIES.

Catalog free. R. H. SCHMIDT & CO.
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vance across the border to one of Uncle Sam's "boys!" Why, *we* "*boys*" are *always ready*, no matter what comes! You just come on, and if we can knock you out (with kindness), we'll send for "Georgie" Dewey and his little shooting-boats. Then you'll wish you'd been willing to surrender. Now, will you be good?—Editor.]

Apiarian Conditions in Utah.

Some time ago I made a tour of Salt Lake, Davis, Weber, Morgan and Summit Counties, and send a few notes gathered by the wayside. I found as a rule that all bees that went into winter quarters moderately strong appeared to be in pretty good condition, altho some of the bees were dead, and a few were still weak from the effects of smelter-smoke, or other causes.

The weather in the month of May is considered the key to the situation here as far as the bee-industry is concerned, for when the weather is fine in May the bees build up fast, and a prosperous, successful season is the result. Last year the weather thru that month was more like March, the bees died off instead of building up, and the result was a failure for some of our bee-keepers.

While we are aware that Salt Lake County has a great number of careless, uninterested bee-keepers, we find that there are also a great many in the surrounding counties. Progressive, fairly up-to-date bee-keepers can be counted by the hundred in this county, Utah, Davis, Weber and other counties, who take sufficient interest in their bees so that as a rule the results are a success; but in some localities, I think if a test were made, we would find that the careless, indifferent bee-keepers would probably be in the majority, as many of them leave everything to chance. Often they do not give the bees room in any form, and they seldom, if ever, supply them with combs, foundation, etc. Their universal excuse is that they haven't the time to attend to them, and yet if we investigate we find that three out of four of them spend their time on something that does not net them over 50 percent, and sometimes not even 25 percent, of what they would realize from their bees if they were properly cared for. One thing that impress me forcibly in traveling around among the bee-keepers, was that every subscriber to the American Bee Journal was a first-class bee-keeper, and such, as a rule, make a success with their bees.

While I found several bee-keepers at nearly every place whose bees did fairly well last season, only a very few reported that their bees did first-rate, the greater portion reporting from ½ to ⅔ of a crop, while some who gave little attention to their bees reported a partial or total failure.

A few of our prominent bee-keepers purchast a quantity of bees in box-hives, and some of them died, while others lingered along and did little or nothing all summer. But those who had their bees on straight frames, with a supply of extra combs and foundation, when the season did become favorable, had the satisfaction of seeing their bees build up strong, and the results were gratifying. The lack of

$5.00 per month will pay for medical treatment for any reader of the American Bee Journal. This offer is good for 3 months ONLY—from May 1 to Aug. 1. Dr. Peiro makes this special offer to test the virtue of small price for best medical services. Reply AT ONCE.

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34 Central Music Hall, CHICAGO.

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has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.

WOOL MARKETS AND SHEEP, CHICAGO, ILL.

FOR SALE—$2,000

The BEST FAMILY TRADE in Honey and Maple Syrup in U. S. A.

Best Clover and Basswood Honey was sold for 25 cents a pound past winter.

Residence telephone connecting with 5,000 other residence 'phones.

Personal introduction given to about 2,000 patrons.

Refer to Editor of American Bee Journal.

Address, X Y Z, care American Bee Journal.

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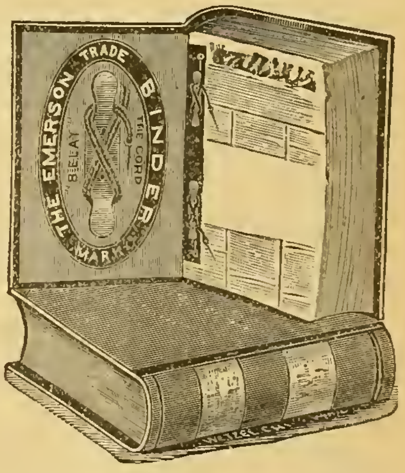

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This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

GEORGE W. YORK & CO.
118 Michigan Street, - CHICAGO, ILL.

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these requisites in a season like the last is the main reason why bee-keepers who content themselves with sticking an empty box on their hives get little or no honey. **E. S. Lovesy.**

Salt Lake Co., Utah.

Vicious Advice on Spraying Fruit.

A few weeks ago I received a circular from a prominent manufacturer of spraying pumps, offering to sell at reduced prices if ordered within 30 days, and also stating on an extra slip that he had a secret on spraying which had produced wonderful results where used last season; and if the extra slip were returned with the order for a sprayer, the secret would be sent with it.

Being in need of a sprayer, and having used one of his manufacture, which I borrowed from a neighbor, and knowing it to be good, I took advantage of his offer and ordered one forthwith. The machine was promptly sent, as per his offer, and is all right; but the wonderful secret is simply vicious and detestable, especially from a bee-keeper's standpoint; it is simply to give one spraying *when the trees are in full bloom.* How does that strike you? Here is what he says:

> "The second spraying, and which I consider the most necessary, is to spray the trees when they are in full bloom, using for this application the Bordeaux mixture, and adding thereto Paris-green in the proportion of one pound to 100 gallons of Bordeaux mixture. I strongly urge this point of spraying in full bloom, notwithstanding the objections which have been raised to it. Orchards which have been sprayed, which have been given this spraying in full bloom this past year, the results have been simply wonderful, in most cases the trees being overloaded, with scarcely a wormy or scabby apple, pear or plum to be found."

This is simply an overdrawn picture of the results of such spraying, and the man giving such advice is an enemy to both the bee-keeper and the fruit-grower. Even granting there might be a slight benefit in such spraying, which is very doubtful, to say the least, it would be only a matter of a short time until every bee in the country would be killed, and the fruit-grower would lose the most important factor in the pollenization of his fruit, to say nothing of the loss to the bee-keeper. **A. H. Snowberger.**

Huntington Co., Ind., April 30.

[We trust our readers will heed the above; and we would suggest that any manufacturer of spraying outfits who gives such abominable advice as did the one referred to, deserves not to be patronized at all. If the one in question were an advertiser in the American Bee Journal, we would refuse to continue to run his advertisement, and give him a free notice besides, that would likely not help his business very much.—Editor.]

The Prospects—Good Advice.

The past winter was not very severe, and bees have wintered first-rate in this vicinity.

I started into winter with 69 colonies and have 65 now. I had two queenless, one whose queen turned drone-layer in the cellar, died, and left the hive, scarcely a bee alive or dead remaining in the hive. I also lost one weak colony in trying to unite it with a queenless one that was very strong and had quite a little brood.

White clover, which was eaten down pretty close last summer, owing to dry weather, revived considerable from the effects of rains and warm weather late in the fall; but the winter was snowless, and a cold spell of weather in February almost "fixt" the clover as the memorable cold spell of February, 1899 did. As it is, the indications point to a fair stand of clover except such pastures as were fed down close.

The alsike has come thru all right.

Queens, Bees, Nuclei, Etc.

Having been 27 years rearing Queens for the trade on the best plans, will continue during 1900 to rear the BEST we can.

PRICES:

One Untested Queen.....$1.00
One Tested Queen 1.25
One Select Tested Queen 1.50
One Breeder............. 3.00
One Comb Nucleus....... 1.80

Untested Queens ready in May. Tested, Selected, and Breeders, are from last season's rearing, ready now.

COMB FOUNDATION FROM PURE, YELLOW WAX.

Send for price-list of Queens by the dozen; also sample of Foundation. **J. L. STRONG,**
14Atf CLARINDA, Page Co., IOWA.

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PAGE

A NICE, SWEET, PLUMP

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The Mississippi Valley Democrat
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A wide-awake, practical Western paper for wide-awake, practical Western farmers, stock-raisers, poultry people and fruit-growers, to learn the science of breeding, feeding and management. Special departments for horses, cattle, hogs, sheep, poultry and dairy. No farmer can afford to do without it.

It stands for American farmers and producers. It is the leading exponent of agriculture as a business, and at the same time the champion of the Agricultural States and the producer in politics. **Subscription, One Dollar a Year.**

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ARE YOU FULL OF GINGER? If you want health and vigor, good appetite and sound sleep, take **LAXATIVE NERVO-VITAL TABLETS,** the quick and safe cure for Constipation, Nervous Dyspepsia, Insomnia, Nervous Affections, the "Blues" and all attendant evils. It aids digestion, purifies the blood, strengthens the nerves, improves the appetite, induces sweet sleep, tones up the whole system and makes you a new creature. It not only makes you *feel* well, it makes you *really* well. It gives you that vim and vigor which makes life worth living.

LAXATIVE NERVO-VITAL TABLETS

F.B.W.Co.

It contains no narcotics nor bromides nor other injurious drugs. We give the formula with every box. You know exactly what you are taking. Originally put up for physicians' use. Ask your druggist for a **FREE SAMPLE.** If he hasn't it, don't take a substitute, but send us a stamp for our book on "Health" and we will send you a free sample, sufficient for you to try it and test its merits to your own satisfaction. *Isn't it worth trying free?* It positively cures. Price 10c and 25c per box. Don't delay sending.

The Modern Remedy Co., Kewanee, Ill.

I am quite sure, from several years' observation, that alsike is hardier than common red clover. I don't think it is any hardier, tho, than white clover.

The forepart of April the weather was quite unfavorable for bees here, as there was an unusual lot of cold, cloudy and windy weather. Lots of bees were lost in attempting to get water, so that it is doubtful if there are as many bees now in the hives as there were when put out of the cellar. They have all the brood they can cover, so that unless the weather continues cold and cloudy we shall soon see an increase in the numbers.

It is noticeable almost all over the country this spring that the bees have wintered well, and the prospects for a honey crop are fair. There is one thought in connection therewith that bee-keepers ought to keep in mind. If the season continues favorable up to, or into, the flow from clover, don't get over-confident and tell every one that asks you that there'll be the biggest honey crop for years, or since such and such a year when honey was perhaps a drug on the market in some places. Remember, "there's many a slip 'twixt the cup and the lip," and even if we should get a big crop there is no necessity of advertising that much. Times are good, and most people are willing to pay a fair price for anything they want. If the new crop starts at a fair price it will not be so hard to hold to it; but almost impossible to advance it after once starting at a certain figure.

I would not want any one, after reading the above, to think that I would approve of lying, or trying to deceive any one in regard to the size of the honey crop, but I know we are apt to get enthusiastic or excited, or something, and tell more than we are askt to. E. S. MILES.

Crawford Co., Iowa, April 24.

THE NAME **"WALKER"** on a Vehicle is a Guarantee of Superior Quality. You can buy Walker Vehicles & Harness Direct from the Manufacturer **AT WHOLESALE PRICES.** Shipped anywhere subject to examination and approval. No finer goods made. Our **free illustrated book** describes the goods and the plan for obtaining them by our popular method. Send for it today.

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BEES AND QUEENS.

Full colony Italian Bees, $5.50.

Tested Italian Queens, $1.25.

You will soon need Sections and Foundation. We will have them waiting for you, and the prices are right.

Silk-faced Veils, 35 cents, postpaid.

Untested Italian Queens, 70 cents.

Catalog, illustrating a bee-keeper's needs, FREE.

Apiaries, Glen Cove, L. I. I. J. STRINGHAM, 105 Park Place, New York, N. Y.

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Italian Queens —FROM— Hutchinson's SUPERIOR STRAIN,

or Imported Stock reared under the most favorable conditions by the Doolittle method. Untested, 60 cts. each, or $6.00 per doz. Tested, 90 cts. each, or $9.00 per doz. Safe arrival.

W. J. FOREHAND, Fort Deposit, Ala.

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HONEY MONEY results from the best care of the bees. That results from the use of the best Apiary appliances. **THE DOVE-TAILED HIVE** shown here is one of special merit. Equipped with **Super Brood chamber, section holder, scalloped wood separator and flat cover.** We make and carry in stock a full line **of bee supplies.** Can supply every want. Illustrated catalogue **FREE**

INTERSTATE MANFG. CO., Box 10, HUDSON, WIS.

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For Sale or Exchange.

25 Hives and Supers; 500 Sections, 4¼x4¼; 6 Drone Traps and 12 Honey-Boards. Will deliver all f.o.b. cars at O'Neil, Neb., for $50; or will exchange for recorded shorthorn bull calf, 2 or 3 months old. Address,

19A1t **N. L. JONES, Chambers, Neb.**

California! If you care to know of its Fruits, Flowers, Climate or Resources, send for a sample copy of California's Favorite Paper—

The Pacific Rural Press,

The leading Horticultural and Agricultural paper of the Pacific Coast. Publisht weekly, handsomely illustrated, $2.00 per annum. Sample copy free.

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Yellow Sweet Clover Seed

WE HAVE IT AT LAST!

We have finally succeeded in getting a SMALL quantity of the seed of the YELLOW variety of sweet clover. This kind blooms from two to four weeks earlier than the common or white variety of sweet clover. It also grows much shorter, only about two feet in hight. It is as much visited by the bees as the white, and usually comes into bloom ahead of white clover and basswood. We offer the seed as a premium

A QUARTER POUND FOR SENDING ONE NEW SUBSCRIPTION.

So long as it lasts, we will mail a quarter pound of the seed to a regular paid-up subscriber who sends us ONE NEW subscriber for the American Bee Journal one year, with $1.00; or ¼ pound by mail for 30 cents.

We have been trying for years to secure this seed, and finally succeeded in getting it. It is new seed, gathered last season by an old personal friend of ours, so we know it is all right. But we have only a small supply. When nearly out we will mention it.

GEORGE W. YORK & CO.,

118 Michigan St., - CHICAGO, ILL.

BEES QUEENS

Smokers, Sections, Comb Foundation And all Apiarian Supplies cheap. Send for FREE Catalogue. E. T. FLANAGAN, Belleville, Ill.

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Italian Queens One Dollar Each. Queens from our select stock during May and June, $1.00 each. Orders will be bookt and filled in rotation.

16A4t **D. J. BLOCHER, Pearl City, Ill.**

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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, April 19.—Market is well cleared of white comb honey; a little choice has sold recently at 16c, but dark and mixt goods are slow of sale. Extracted, white, 8@9c; amber, 7@8c; dark, 6@7c, according to quality and package. Beeswax in good demand at 28c.

R. A. BURNETT & CO.

CINCINNATI, March 3.—There is some demand for extracted honey from manufacturers at 7@7½c for amber and Southern; clover, 8@8½c. Comb honey is selling firm at 14@16½c in a small way. Beeswax, 25@27c.

C. H. W. WEBER,
Successor to Chas. F. Muth & Son and A. Muth.

BOSTON, March 9.—Our honey market is showing some signs of lower prices, altho the stock on hand is not large. At the same time prices are so much higher than previous years that the trade have taken it very slowly and the results are that the holders are willing to range prices quite a little in order to move stock on hand. Prices range: Fancy white, 17@18c; No. 1, 15@16c; amber, 10@12c; buckwheat almost unsalable. Extracted, best white California, 8½c.

BLAKE, SCOTT & LEE.

KANSAS CITY, Mar. 19.—We quote fancy white comb, 15c; No. 1, 14c; No. 1 amber, 13c; No. 2 amber, 13½c. Extracted, white, 8c; amber, 7c; dark, 6c. Beeswax, 22@25c

C. C. CLEMONS & CO.

DETROIT, Apr. 23.—Fancy white comb, 15@16c; No 1, white, 14@15c; amber and dark, 10@12c. Demand and supply both limited. Extracted, white, 7@7½c; amber and dark, 5@6c. Beeswax, 26@27c. M. H. HUNT & SON.

BUFFALO, April 20.—For strictly fancy white one-pound comb honey we are getting 16@17c. Any grade sells high—10@15c, as to grade.

BATTERSON & CO.

NEW YORK, April 9.—Market is practically bare of comb honey of all description. Little lots arrive here and there and sell readily at from 10@11c for buckwheat and 12@15c for white, according to quality and style of package. The market is well supplied with extracted, which we think, however, will be moved before the new crop arrives. Beeswax is in good demand at from 27c to 29c per pound.

HILDRETH & SEGELKEN.

SAN FRANCISCO, Apr. 25.—White comb, 11½@12½c; amber, 8@10c. Extracted, white, 7½@8c. light amber, 7@7½c; amber, 5@5½c; Beeswax, 26@27c.

Small quantities of new crop have been received, but not enough has been yet done in the same to clearly define values. Current quotations would not likely be sustained under anything like free offerings. The yield will undoubtedly prove light, and the market shows a generally firm tone.

OMAHA, Mar. 13.—Demand shows some improvement in January, having been much more active, but as anticipated there is no advance in prices. Market remains steady at 14@14½c for fancy white comb and 8½c for white extracted. The latter is pretty well cleaned up along the Missouri River, and it looks as if there would be some shortage before another crop comes in. From present appearances there is about enough comb honey to go around at the present prices, hence we look for no particular change in values. PEYCKE BROS.

Convention Notice.

Illinois.—The spring meeting of the eastern part of the Northern Illinois Bee-Keepers' Association will be held at the residence of William Farnham, 4 miles southwest of Rockford, Ill., on Tuesday, May 15, 1900. All are cordially invited. B. KENNEDY, Sec.

New Milford, Ill.

ALBINO QUEENS If you want the most prolific Queens—If you want the gentlest Bees—If you want the best honey-gatherers you ever saw—try my Albinos. Untested Queens in April, $1.00; Tested, $1.50.

.12A26t **J. D. GIVENS, LISBON, TEX.**

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We have a Large Stock on hand and can ship promptly.

SEND US YOUR ORDERS FOR

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OR ANYTHING YOU WANT IN THE BEE-KEEPING LINE.

WE MAKE ONLY THE BEST.

Our Falcon Sections and New Process Foundation are ahead of everything, and cost no more than other makes. New Catalog and copy of THE AMERICAN BEE-KEEPER free. Address,

THE W. T. FALCONER MFG. CO.,
JAMESTOWN, N. Y.

☞ W. M. GERRISH, East Notingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.

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23rd Year Dadant's Foundation. 23rd Year

Why does it sell so well?

Because it has always given better satisfaction than any other.
Because in 23 years there have not been any complaints, but thousands of compliments.

We guarantee satisfaction.

What more can anybody do? BEAUTY, PURITY, FIRMNESS, No SAGGING, No LOSS.
PATENT WEED PROCESS SHEETING.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

BEE-KEEPERS' SUPPLIES OF ALL KINDS.

Langstroth on the Honey-Bee, Revised.

The Classic in Bee-Culture—Price, $1.25, by Mail.

Beeswax Wanted at all times.

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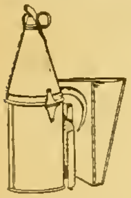
BINGHAM BRASS SMOKERS

made of sheet-brass which does not rust or burn out should last a life-time. You need one, but they cost 25 cents more than tin of the same size. The little pen cut shows our brass hinge put on the three larger sizes.



No wonder Bingham's 4-inch Smoke Engine goes without puffing and does not

DROP INKY DROPS.

The perforated steel fire-grate has 381 holes to air the fuel and support the fire.

Prices; Heavy Tin Smoke Engine, four-inch Stove, per mail, $1.50; 3½-inch, $1.10; three-inch, $1.00; 2½-inch, 90 cents; two-inch, 65 cents.

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BINGHAM
BeeSmoker

BINGHAM SMOKERS

are the original, and have all the improvements, and have been the STANDARD OF EXCELLENCE for 22 years. Address,

T. F. BINGHAM,
Farwell, Mich.

I ARISE

To say to the readers of the BEE JOURNAL that

DOOLITTLE...

has concluded to sell QUEENS in their season during 1900, at the following prices:

1 Untested Queen	$1.00
3 Untested Queens	2.25
1 Tested Queen	1.25
3 Tested Queens	3.00
1 select tested queen	1.50
3 " " Queens	4.00
Select Tested Queen, last year's rearing	2.50
Extra selected breeding, the very best	5.00

Circular free, giving particulars regarding each class of Queens, conditions, etc. Address,

G. M. DOOLITTLE,
11A26t Borodino, Onondaga Co., N. Y.

Please mention Bee Journal when writing Advertisers.

DR. MILLER'S

Honey Queens

One Untested Queen Free as a Premium for sending ONE New Subscriber to the American Bee Journal for one year.

We have been fortunate in making an arrangement with DR. C. C. MILLER—the well-known honey-specialist—to rear queens EXCLUSIVELY FOR US DURING THE SEASON OF 1900. These Queens will be mailed in rotation, beginning about June 1, so "first come first served." We are ready to book orders now.

The Queens Dr. Miller will send out on our orders will be precisely the same as those he rears for his own use, so of course they will be from his best stock. His best colony in 1899 had a queen reared in 1898; May 5, 1899, it had brood in 4 frames, and he gave it at that time a frame of brood without bees. It had no other help, but May 25 a frame of brood with adhering bees was taken from it, and the same thing was repeated June 3, leaving it at that time 5 frames of brood. It stored 178 sections of honey, weighing 159 pounds (and that after July 20, in a poor season), being 2⅔ times the average yield of all his colonies. A point of importance is the fact this colony did not swarm, and an inspection every week or 10 days showed that at no time during the entire season was there even so much as an egg in a queen-cell. Dr. Miller expects to rear queens from this one during the coming summer.

The demand nowadays is for BEES THAT GET THE HONEY when there is any to get, and Dr. Miller has such bees. You will want to have a queen from his best, we are sure, even if she is not pure Italian.

Do not send any orders to Dr. Miller, as all orders MUST come thru us, according to our agreement.

Remember, send us $1.00 for ONE NEW SUBSCRIBER to the American Bee Journal for one year, and YOU will get ONE OF DR. MILLER'S UNTESTED HONEY-QUEENS FREE AS A PREMIUM. This offer is made *only* to our present regular subscribers. Orders for queens to be filled in rotation, beginning about June 1st.

Address all orders to **GEORGE W. YORK & CO.,**
118 Michigan Street, CHICAGO, ILL.

GEORGE W. YORK, Editor.

AMERICAN BEE JOURNAL.
ESTABLISHT IN 1861 OLDEST BEE-PAPER IN AMERICA
DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS.

40th YEAR. CHICAGO, ILL., MAY 17, 1900. No. 20.

CONTRIBUTED ARTICLES

"The Best Hive for Northern Illinois," and Its Successful Management.

BY W. C. LYMAN.

ON page 146, Mr. Edwin Bevins refers to an article which I wrote for the Chicago Bee-Keepers' Convention last fall on the above subject. I made the article as short as I well could, simply as a "starter" for the discussion of the subject, not expecting to see it in print.

From my point of view the subject should not be the best hive, but the best management for Northern Illinois, where the surplus crop is white honey, and the season is short and comes in midsummer. Because I did not state clearly the ideas I wisht to convey, it seems Mr. Bevins has been led into a mistake in supposing that I use brood-frames deeper than the Langstroth, and eight to the hive. I have never tried such frames, but have used the Heddon hive, which, as I use it in winter, is a deep *brood-chamber*, and amounts to about the same thing. I have had the Heddon hive in use for 14 years, and the dovetail 8-frame hive since it was introduced by the A. I. Root Co. Previously I had used several styles of hives taking the Langstroth frame, and it was while using the 10-frame Langstroth hive that I came to the conclusion that the supers of that size were too large to tier up to the best advantage *in this location*.

I therefore had queen-excluding honey-boards made (which would fit a 10-frame brood-chamber) and an 8-frame super. When so used the ventilation was very poor, for the hives had bottom-boards nailed on, and not a large entrance; so I gave them up.

Perhaps 8-frame supers on *shallow* 10-frame brood-chambers, with loose bottom-boards, might be all right, but I have not tried them.

Referring to Mr. Bevins' article, he says in regard to using deep brood-chambers until swarming-time, and then shallow ones until the end of the white honey harvest, "This practice, it seems to me, would be attended with a good many difficulties and no adequate compensating advantages." I certainly do not find it so.

In Gleanings in Bee-Culture, Mr. L. Stachelhausen says under the head of "The Hive Question:" "By the present management we can not use the advantages of large hives in producing comb honey, so we can form only one conclusion, and that is, *the present management is incorrect*"......"The problem is to find out a management by which all advantages of large hives can be utilized, and at the beginning of the honey-flow to get the colony in such a condition that the work in the supers is started at once, and all the honey stored there."

Now having the bees in the fall in hives of sufficient brood-chamber capacity to contain honey enough to carry them thru to another season's work, it seems to me is the cheapest and least troublesome plan of getting them in good condition for the harvest.

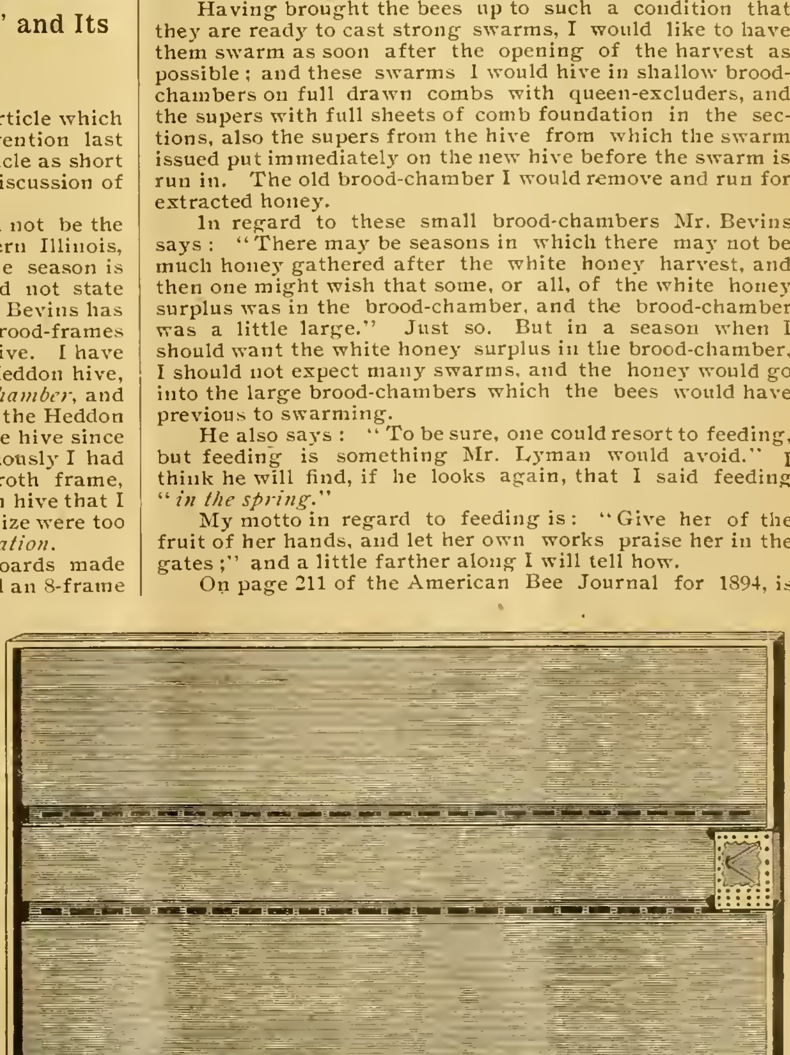
Having brought the bees up to such a condition that they are ready to cast strong swarms, I would like to have them swarm as soon after the opening of the harvest as possible; and these swarms I would hive in shallow brood-chambers on full drawn combs with queen-excluders, and the supers with full sheets of comb foundation in the sections, also the supers from the hive from which the swarm issued put immediately on the new hive before the swarm is run in. The old brood-chamber I would remove and run for extracted honey.

In regard to these small brood-chambers Mr. Bevins says: "There may be seasons in which there may not be much honey gathered after the white honey harvest, and then one might wish that some, or all, of the white honey surplus was in the brood-chamber, and the brood-chamber was a little large." Just so. But in a season when I should want the white honey surplus in the brood-chamber, I should not expect many swarms, and the honey would go into the large brood-chambers which the bees would have previous to swarming.

He also says: "To be sure, one could resort to feeding, but feeding is something Mr. Lyman would avoid." I think he will find, if he looks again, that I said feeding "*in the spring*."

My motto in regard to feeding is: "Give her of the fruit of her hands, and let her own works praise her in the gates;" and a little farther along I will tell how.

On page 211 of the American Bee Journal for 1894, is



Lyman's Bee-Escape Honey-Board.

described the bee-escape honey-board (shown here) which is useless for the purpose there recommended, but which is of so much use in transferring or changing bees from one hive to another, that I am using it entirely for that purpose. In fact, I believe its use is the easiest plan of transferring of which I know.

"Now, as the harvest draws to a close, I would prepare some of the brood-chambers such as I winter the bees in, with full combs of honey or empty ones, as seems best according to the season, and have them ready to place on the stands which are occupied by swarms in shallow brood-chambers. When the time comes to take off the last of the comb honey, take one of these prepared brood-chambers and put it on the stand of one of the small brood-chamber colonies; on it (the prepared brood-chamber) put one of the bee-escape honey-boards; first having taken the queen from the small brood-chamber and put her in the large one; and above the bee-escape honey-board put the brood-chamber from which the queen was taken, then carry the comb-honey supers removed from the small hive to the honey-house.

As the bees hatch out from the small brood-chamber the drones and young queens, if any are reared above the excluder, as is sometimes the case, will pass out thru the bee-escape in the front end of the honey-board to the outside of the hive, which ends all bother with them, and the brood-chamber becomes a super for extracting the fall honey.

Mr. Bevins further says: "Of one thing I am tolerably well convinced, and that is, that the wintering of bees without the necessity of feeding, and the securing of a large amount of surplus, are things which can not be with any certainty combined."

By the above method the labor and expense of feeding is reduced, and the amount of surplus obtained from the colonies which swarm has often been one-third more than from the best of those which did not swarm. The hives from which the swarms issued, and those which are not strong enough to work well in the boxes, are used to fill extracting-combs, and of these enough are used for feeding purposes.

As I am living in Northern Illinois, and not in a very good location for honey, I will say that I am very well content with the amount of surplus which "Providence and the bees permitted me to have" during the last season, which was a little over 50 pounds per colony, spring count; tho it was not obtained as Mr. Bevins says, in his last paragraph, he would get it.

I have read his articles as coming from a practical bee-keeper of experience, and I think we would not differ much on general principles.

To sum up, my plan is simply this: Use any kind or size of hive you like, according to your location, so as to have the bees send out strong swarms as near the opening of the honey harvest as possible. Hive these swarms in shallow brood-chambers, on *full drawn combs*, to make them more contented to catch all the pollen, and to save buying foundation from year to year for use in hiving swarms. Use only the swarms, and the strong colonies which do not swarm, for comb honey, and use all others for extracting, or for honey to feed as needed. When the comb honey is removed, transfer the bees in small brood-chambers back to large ones by the use of bee-escape honey-boards. The use of sectional brood-chamber hives would make it unnecessary to transfer the bees, but it is so easy to transfer that any one who prefers larger frames can have them in use for the greater part of the year. Dupage Co., Ill.

Shipping Queens with Old Bees—Backward Spring.

BY G. M. DOOLITTLE.

MY experience has again told me this spring that old bees, or such bees as have been wintered over, those which emerged from their cells last September or October, are practically worthless for shipping queens in early spring. I began to suspect this some years ago, since when I have been keeping a sharp lookout in the matter.

Some years ago the call for early queens was great, as it always is, and thinking to please my customers, I shipt very many within a week after the bees were out from the cellar. The result was that more than half so shipt were reported as arriving dead. This I could not understand, for I had used the same cages, food and ventilation as were used the fall before without a single loss. Later on, after there was plenty of suitable-aged bees to send with queens, I met with the same general success which had been attained before. This set me to studying, and I soon arrived at the conclusion that the trouble lay in having to use old or nearly worn-out bees, where queens were sent prior to a month from the time of setting from the cellar.

The next year I tried again, and found that my loss in queens sent out from one to three weeks after setting from the cellar was fully as great as it was the year before. I then refused to send queens before the bees had been from the cellar 30 days unless the purchaser would take the risk on them; so I sent very few, as the purchaser always wishes the seller to guarantee safe arrival.

This year, at the urgent request of a few parties, I have sent out a few queens, only to experience the same loss as before, and so I write this, advising all of our northern queen-breeders to guard against such loss, by not sending queens till they can find bees of suitable age to send with them, for a queen will not live long in early spring after her accompanying attendants are all dead. The trouble seems to lie in the fact that the vitality of a bee which has lived from September to May is nearly gone, and when they come to stand the strain of confinement they are soon exhausted, and die in a very short time.

This loss of early queens in the mails is something very undesirable, not only to the seller, but to the purchaser as well, even where the seller guarantees safe arrival; for where a loss is reported the seller has at once to make another of his full colonies queenless in addition to the first, for this loss comes at a time of year when it is too early to rear queens advantageously. Then the buyer, expecting his queen, has usually made a colony queenless to fit it to take the expected queen with the least danger from losing her by introduction, and where she reaches him dead he has a queenless colony on hand to wait till he can get a letter to the breeder, and the breeder send another queen back if he can do so. If he can not send another queen right away, then the purchaser must allow his colony to rear a queen from the brood in the hive, or send to some one else for a queen, which, in either case, generally results in a colony whose usefulness is destroyed for that season as far as surplus honey is concerned.

But how old should bees be to be of suitable age for sending with a queen? My experience proves that the younger the bee, providing said bee has had a chance to fly out from the hive and empty its intestines, the better for successful results. As bees, when in a colony is in a normal condition, do not fly out of the hive till they are six days old, those suitable for shipping with a queen should be from 6 to 12 days old.

And how do I tell bees of this age from those both older or younger? In this way: From experience I have found that where combs of brood are taken from the bees and kept at a temperature which will perfect the brood by keeping this brood in a warm room over a strong colony with wire-cloth between, or in a lamp-nursery, till enough bees have emerged to protect this brood, the young bees will fly out to empty themselves on the first pleasant day after they are five or six days old, so that in from two to six days more the older bees will be of suitable age for shipping with the queen. Now, if we open the hive containing these bees of right age we will find that a certain part of the bees will almost immediately thrust their heads into the cells and begin to fill with honey. By examining closely we will note that such as are filling themselves are not the young fuzzy ones, nor those which show by their light, downy appearance that they are next older than the fuzzy ones; nor are they those whose abdomens are distended with excrement from the food consumed in the larval state. Consequently they must be the bees which have flown, and those are just the ones we want.

Then, again, open a hive which you know is composed of bees over 20 days old, and unless you pour in too much smoke, or jar the hive, or handle the combs roughly, scarcely a bee will put its head into the cells to take honey; neither will the old bees from hives recently brought from the cellar be seen with their heads in the cells on opening the hive, if it is opened as it should be. Therefore, in putting up queens I catch the bees which are to accompany her from those which have their heads in the cells loading up with honey as soon as the hive is opened, this loading up telling me that they are the bees most suitable for the purpose of keeping a queen safe and sound to her journey's end. And I now do not feel like guaranteeing the safe arrival of queens until I can find such suitable bees to put up with them for shipment.

BACKWARD SPRING IN NEW YORK.

Our spring here is very backward. The snowbanks and ice in the lakes held on very late, and it did not warm up sufficiently so I could set the bees from the cellar till the 18th and 20th of April, those at home being set out on the first date, and the out-apiary on the latter. A few days of comfortable weather brought out the elm and soft maple bloom, but with it came cold high winds from the northwest, with floating clouds. The bees seemed determined to secure some of the pollen, so they would go to the trees when the sun would come out only to be blown down by the wind, and chilled when clouds went over the sun. In this way things went on for a week when it came on freezing nights, and on the mornings of May 4th and 5th the ground was covered with snow, it snowing more or less all day the 5th. There seems to be no warm-up to it, and the bees are getting in hard shape. But I look for better days, and expect when it does warm up it will be hot enough to make up for lost time. And the bees need the hot weather *now*.

Onondaga Co., N. Y., May 7.

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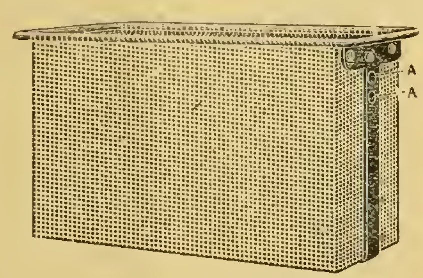
Some Improvements in Beeswax Extractors.

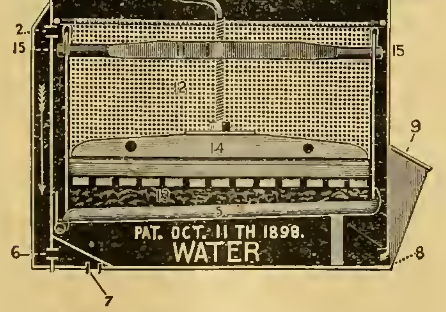
BY C. G. FERRIS.

WHILE it is practical to render a very small quantity of wax by the various ways discust and presented by many of our bee-keepers, I would say to the apiarist having any amount of combs to render, than he can not depend upon some of the wax-extractors now offered. The larger the extractor the better the demand, and this to-day contains nearly 4,000 cubic inches to work with in the baskets. This, assisted by having extra baskets in reserve, makes the working-space always to its fullest capacity. By using the press and follower (see illustration) we can in a few moments have the basket and refuse ready to be taken from the extractor, and while the basket removed is being cleaned an extra one takes its place, giving the operator clean ones to continue the operation indefinitely.



The Extractor Basket.

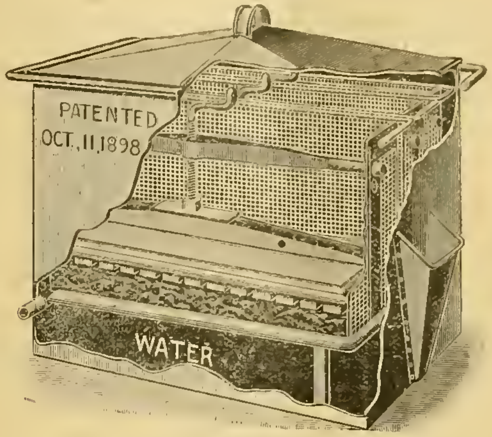
The baskets are interchangeable, as much so as the frames in our hives; they are made of extra-heavy galvanized wirecloth in a most substantial manner, all in one piece, united and soldered to galvanized hoop-iron at the ends of the baskets. All rims and parts in their construction are made upon the self-spacing principle.



Longitudinal View of the Extractor.

To both Mr. Hetherington and Mr. Boomhower I am indebted for ideas and suggestions that have enabled me to place this wax-extractor in the position it occupies to-day. Improvements will be made in the future as fast as pointed out by my friends, and any that are found valuable in practical use will be paid for.

The second cut is a longitudinal section showing the basket and extractor cut thru the center. No. 14 is the follower, to be placed on top of refuse when ready to use the press. No. 11 is an iron bar holding the screw. No. 12 the basket. To remove the bar and screw we give it a few turns when the screw leaves the hole in the follower, when a movement either way towards either end of the basket (No. 15) releases one end, then the bar and screw can be lifted from the basket. One motion puts it in place, and the instant pressure is applied fastens it.



A Three-Basket Wax-Extractor.

Nos. 2, 6 and 7 are for the escape of steam and foul odors to the stove. The surplus steam enters at No. 2 down to No. 6, and in the stove at No 7, where an open lid or ringed griddle should be used for the small extractors. No. 9 is where water is supplied to the tank, and also shows when more water is needed, as when the water gets below the top of the hole the steam escapes in volumes; also, at a glance, in attending to the extractor, we can see how much water there is, as it shows from the outside.

The above cut shows one of the most rapid machines—a three-basket, using five to great advantage. The first basket in this cut has half of it taken away to show the follower and press in actual position. After using the machine until the refuse becomes objectionable, put on the follower, No. 14, adjust the screw and bar in the basket as shown in the cut, and run the screw down as far as desired, with this pressure under live steam there is no danger of wax granulating by coming in contact with cold air as with other devices that make it necessary to remove the refuse from the baskets. The result can not be but highly gratifying to practical bee-keepers.

After draining under steam and pressure for a few moments, one or more of the baskets should be removed, and while the cleaning them out of refuse is going on, extra ones take there place, whereby no delay is caused in the rendering, enabling us to get better results with the smaller machines also; for with a single-basket extractor, by using two baskets, the rendering is not interfered with by the refuse. With a two-basket machine of course we do double the business done with a single. We get the greatest results ever attained in a steam wax-extractor by using five baskets, as stated above.

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Spreading Brood—Its Dangers and Advantages.

BY C. DAVENPORT.

THERE has in the past been some discussion in regard to spreading brood in the spring in order to increase brood-rearing, and thus have a larger force of bees for the early white honey-flow. Like many other things discust in relation to our pursuit, there are some who are strong advocates of the practice, and others who oppose or condemn it. Mr. Doolittle, who it is needless for me to say is one of the most experienced and practical men in our ranks, advocates and practices this spreading of brood in the spring, and it is a success in his hands; but many of us lack the skill and judgment he possesses, and then I think, too, locality has a great deal to do with our success or failure in the matter. I have largely practiced it in the past, but of late I have discontinued it almost altogether, for here with what skill, or perhaps I should say what judgment, I possess, taking one year with another, nothing is to be gained by the practice.

It is true, some years a considerable increase in bees can be secured by spreading, but it is equally true that some years nothing is gained; while, again, some years I have had the practice result in a serious loss of brood, which was more valuable at the time it was lost than twice or even three times the same amount would be later in the season. The trouble is, that here in the spring, during the time brood must be spread in order to secure much advantage from the practice, the weather is too uncertain. A warm, mild spell may be succeeded for a considerable time with so low a temperature that colonies of ordinary strength will hardly be able to protect what brood they would naturally have, so if the brood has been spread during or just previous to the warm spell, some of it must perish, and in some cases many adult bees will also be lost, for they may stay spread out trying to protect the spread brood until they succumb to the cold; but it is only in very exceptional cases that many bees themselves are lost, and this occurs when the weather turns cold very suddenly. When the change comes on gradually the bees keep contracting the space occupied until, if necessary, they are as compactly clustered as they are during cold weather late in the fall.

But I think there is no question but what a large increase in brood-rearing can be secured, or at least started, by spreading the brood. But it should be done with great caution in localities that are like mine—subject to sudden changes during the forepart of the season.

To show the danger there is in the practice here, I will briefly cite an instance in this respect that occurred with me a number of years ago. That spring the weather until the middle of April was cold and unfavorable, then it suddenly turned warm, and I expected the cold weather for that season was over, and as there was but little brood in the hives I commenced spreading it, and brood-rearing increast very rapidly, but the last of April it suddenly turned cold again, and we had quite a snow-storm, and it continued cold until about the middle of May. That spring I noticed a number of farmers planting corn with overcoats and mittens on. When warm weather came again I found, upon examination, that a large part of the colonies were in a deplorable condition; they were very weak in bees, and a large part of the brood had perisht. Besides this, spreading of brood had caused them to use much more of their stores than they would otherwise have done, so I had to do a good deal of feeding that would not have been necessary if the brood had not been spread. Besides the work it involved, I lost by it that year, at a low estimate, $200.

Perhaps most of those who read this will say, Well, you spread too much and too soon. If they think so, my object is gained, for I have merely described my loss as a caution to others. But it should be understood that all I have said in regard to this matter refers to single-walled hives, for I use no other. In the long ago, I made a number of double-walled chaff hives, but a large percent of the colonies in them, if the hives were left outdoors, perisht during the winter or following spring, and if colonies in them were wintered in the cellar I could not see that they did any better in the spring, or gathered any more honey during the season, on an average, than colonies in single-walled hives, so I discontinued their use, for they were much more unwieldy to carry into and out of the cellar, and more unhandy to manipulate in the summer.

Mr. Doolittle claims, I believe, that bees winter enough better in chaff hives in the cellar to pay for the extra trouble and expense of using them, but how or why they can, in a cellar, be kept at the proper temperature is something I can not understand, except if the packing overhead is arranged so as to absorb dampness that may arise from the cluster, this might in a damp cellar be a benefit; but the same benefit could be more cheaply secured by putting a packt super over a single-walled hive. Be this as it may, at the time I had a few double-walled hives in use I knew nothing about spreading brood in the spring, so I can not say from experience whether as much caution would be necessary when using them. It looks very reasonable to suppose that a colony in a packt double-walled hive could protect more brood during a cold spell than the same colony could in a single-walled hive. However it would be in the case of spread brood, probably all know that there is a considerable difference of opinion between men of experience in the matter as to whether a chaff hive is an advantage or not during the changeable weather of spring to a colony of average strength left in normal condition.

Of course, there are times late enough in the season when there is no danger of brood being chilled, when the brood in a certain colony can be spread to great advantage; in other cases it will result in great advantage to a colony to have their combs rearranged early in the spring, for in some cases there is so much honey in the combs next to the cluster that brood-rearing will not increase as fast as it naturally should, for tho bees can remove and change honey from one comb to another, sometimes they do this work too slow in the early spring; besides, there may not be anywhere to put it.

When using a small hive like the 8-frame Langstroth, one of the things that has to be watcht and guarded against is not to allow too much honey in the brood-nest during the time brood-rearing is desired, for brood-rearing can not, of course, be carried on unless there are empty combs in which the queen can deposit eggs.

Dr. Miller would probably say, Give them another story of empty combs, then at the beginning of the white flow, if thought best, they can be reduced down to one story again. This is a good plan to practice if one has the empty hives and drawn comb, but there are probably many who run for comb honey who do not have many of these extra hives unless a severe winter loss has occurred. This is the case with me, and with frame hives I find this matter can be as profitably arranged here without going to the expense and work of keeping a large number of extra hives and combs, for there are usually enough colonies short, or that can at least take more stores without curtailing their brood-rearing, so that by exchanging combs enough brood-room can be secured for all.

There are exceptional cases, as when, for instance, the brood-nests are on an average unusually well filled in the fall; and again, when more than the usual amount is secured from the early spring flowers. Under these conditions the extractor is brought into play, which soon remedies the matter; but in other localities, like I imagine Dr. Miller's to be, where there is a longer time from the beginning of settled warm weather until the main flow, it might be money well invested to have an extra story with drawn combs for all strong colonies. Southern Minnesota.

QUESTIONS
AND
ANSWERS.
Dr. C.C. MILLER

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Transferring—Bee-Keepers Mostly Non-Tobacco Users.

1. My 15 colonies came thru the winter strong. One colony, tho, had no queen lately; and I feared they had foul brood, but there was no smell. Some brood was brown, and on one side of the cell, and would stretch out about ½ inch; some was dried up. I tried to transfer them, but they would not be transferred. They were an immense colony. I tore their box up and let them scatter to the four winds, as I had no queen and could not find theirs. I transferred 4 other colonies the same day (April 15) quite successfully, I believe. This is the way I did it:

I put a super where the old box stood; turning the old box upside down about 5 feet back, and setting the new body on top, I drummed and smokt from the old box nearly all the bees with the queen, I suppose, into the new body. Then taking the body, I placed it on the old stand under the super. I used about 3-inch starters. Did those homeless bees go to other hives, do you suppose?

The colony I could not transfer had lots of moths on the bottom, inside of the hive. I am worrying some for fear they might have had foul brood.

2. I am having some extracting-hives made with closed-end frames 1⅜ inches wide. The bodies and supers are the same size—5⅞x14¼x17, inside measure. I can put two to-

gether for a hive-body, and can alternate or change frames easily. What do you think of it?

3. LATER.—Those colonies I transferred were robbed out, except one. Well, I'll live and learn. There being a dearth of honey, somewhat, I had to do something with those new hives, so finding another queenless colony with some straight comb and frames nearly the same size of the Langstroth frames, full of honey, I divided them around with the adhering bees. The balance I left in the hive and set them on top of another colony, bees and all, smoking them well. How will they do? Will they fight or live peaceably?

4. I have met quite a number of bee-keepers, and loan them my journal, as I am anxious to have them subscribe. There seems to be a fraternalism among bee-keepers. So far I have not found a tobacco-user among them. Is that generally the case? WASHINGTON.

ANSWERS.—1. If those bees that you let "scatter to the four winds" had nothing left on their own stand in which to enter, they no doubt entered other hives near by. It will be well for you to keep a sharp lookout for foul brood. The moths cut no figure in the case.

2. For extracting-supers you will like these shallow bodies. Some also like them for brood-chambers, but the majority seem to prefer something deeper.

3. It's a toss-up whether it's peace or war. You ought to be able to tell very shortly after putting the queenless bees on top. If they did not unite peaceably you would find dead bees thrown out at the entrance. It's rather risky to unite bees in that way when no honey is coming in.

Look here, won't you please quit trying to transfer or doing anything else with bees that will tend in the least to start robbing, unless at a time when they are gathering? Transferring is usually done when fruit is in bloom, with no tendency to robbing.

4. There are tobacco-users among bee-keepers, especially in other countries, and in the German bee-journals it is a common thing to find tobacco and bee-keepers' pipes advertised. But for some reason the number of bee-keepers that use tobacco in this country is small. At bee-conventions, or any place where a crowd of bee-keepers is found, the absence of tobacco-smoke is very noticeable. Perhaps bee-keepers get all the smoke they want when smoking bees.

Amount of Brood in a Hive by April 20—Foundation in Brood-Frames.

1. I have 15 colonies of bees in chaff hives, 14 of them having Italian queens, but only 4 mated with pure drones. I got a tested queen a year ago last fall, and have reared my queens from her. April 18 there was brood and eggs in 8 frames in the hive that queen is in.

1. Do bees usually have that amount of brood by April 20?

I found in another hive 6 frames of brood and eggs. But most of them had only 3 or 4 frames.

2. Does it pay to put full sheets of foundation in brood-frames?

My hives are all 10-frame except two; they are eight. IOWA.

ANSWERS.—1. The amount of brood in a hive April 20 depends not only upon the colony, but also the place and the season. Two apiaries 3 miles apart may show a decided difference. In the present case the colony seems to have been unusually good.

2. Yes, if for no other reason than to get all worker-comb.

Some May-Day Apiarian Questions.

1. In looking thru a colony about the first of May, how is a beginner to judge whether there is enough stores to last the bees "at least two weeks?"

2. Is it likely, or possible, that one will find enough honey left over in an 8-frame Langstroth hive, wintered on the summer stand, to make the use of an extractor advisable in May?

3. If so, on what basis should one determine to use the extractor?

4. Why do you not, in your department, insist that the editor shall print the questions and their answers alternately instead of seriatim? NEBRASKA.

ANSWERS.—1. That's a very sensible question, but the answer is not so easy. One with experience in judging the matter will find it easier to decide than to tell another how to decide. Generally, however, if you see a single spot of sealed honey along the upper part of any comb without lifting out any of the frames, you may judge there is no immediate danger of starvation, for the bees will have at least a small store of unsealed honey in or near the cluster. If sealed honey is to be seen along a number of the combs, you may feel easy for the next two weeks. Lifting out the frames, you can estimate pretty well by inspection how many pound sections of honey would equal the honey in the hive, and if two pounds are there they may be left for two weeks with no anxiety.

2. To say the least, it is a very remote contingency.

3. If you find less than three combs in which the queen can lay, it may be worth while to consider the question of giving more room. This answer at a guess, for I think I never felt called upon to extract in spring to make needed room.

4. I have all I can do to scrape up answers to fit all the questions that come, without getting into a row with the printer, his devil, and other angels, about the order in which the questions are printed. That's his part of the business, and if I should go to interfering I'm afraid the reputation of the "Old Reliable" would suffer.

Transferring After Swarming.

If I have bees in box-hives, and combs in poor shape to transfer, can I let them send out a prime swarm, then catch the virgin queen in a trap as she comes out for her wedding flight, put her in a new hive with full foundation, and place the box-hive above with queen-excluder, and in 21 days have the box-hive empty of bees and brood? If not, what is my best way to get them into new hives, with good, straight combs, with the least loss of time and bees? IOWA.

ANSWERS.—It is somewhat doubtful whether your plan would work to your satisfaction. It may work better to leave the young queen undisturbed till 21 days after the prime swarm, and then drum out the bees and queen. If you put the prime swarm on the old stand, setting the old hive close beside it, a week later putting the old hive on a new stand, you will have a strong force for surplus in the prime swarm, and no second swarm will be sent out. By waiting 21 days before making the drive, you will lose a little in the way of eggs and brood from the young queen, but not much.

Cottonwood and a Wax-Plant.

Cottonwood yields plenty of pollen, but is no good for honey. Better plant "measly box-elders," as Mr. Secor calls them—he might get a little honey from them.

I have a vine in the house that beats all the honey-plants I ever saw to yield honey. When it blooms, the flowers look like wax, and the nectar stands in drops that a bee could fill up on in short order. We call it a wax-plant, and the book calls it Hoya. KANSAS.

ANSWER.—The wax-plant, or Hoya, is a great yielder of nectar, and several other greenhouse plants are so rich in nectar that a field of them would make bees disgusted with such slow-yielding things as clover and linden; but the trouble is that they are so expensive that the honey from them would cost a dollar a pound or more.

Thanks for information about cottonwood.

Queen-Excluders That Were Used Over Foul-Broody Colonies.

Late last season I purchast a quantity of queen-excluders which had been used (unknown to me) over bees having foul brood. Could they be used again, and with what precaution, or would it be safer to discard them altogether? ONTARIO.

ANSWER.—It will be all right to use them if they are first thoroly boiled.

The American Fruit and Vegetable Journal is just what its name indicates. Tells all about growing fruits and vegetables. It is a fine monthly, at 50 cents a year. We can mail you a free sample copy of it, if you ask for it. We club it with the American Bee Journal—both papers one year for $1.10.

CONVENTION PROCEEDINGS

Report of the Northeastern Ohio and Western Pennsylvania Bee-Keepers' Convention.

The Northeastern Ohio and Western Pennsylvania Bee-Keepers' Association held their 19th annual convention at Andover, Ohio, Jan. 12 and 13, 1900. Owing to the fact that a farmers' institute was being held in the neighborhood, and, as nearly all the bee-keepers were farmers, they were really more interested in the farmers' meeting. The attendance at the bee-keepers' convention was rather slim. In fact, the convention was more informal than regular. Nevertheless, the enthusiasm displayed would have done credit to a much larger assemblage. All those in attendance felt that their time had been well and profitably spent, and all departed for their homes avowing renewed allegiance to the association, and promising their best efforts for the success of future meetings.

It was at Andover that the association had been organized 20 years before. In fact it was, I believe, one of the pioneer bee-keepers' associations of this country. It was here that some of their most enthusiastic and largely attended conventions had been held. These earlier meetings were attended by some of the best bee-keepers in the country. The early records of the association show that Thomas G. Newman, then editor of the American Bee Journal, was one of those who attended and took an active part in the affairs of the association. Among those in attendance at the last session was a number of those who had signed the roll at the initiatory meeting 20 years before.

The first day's session was given over to a kind of an historical reminiscence of the association and its early members. One of the most pathetic incidents of the convention was when Mr. M. E. Mason, one of the founders of the association, took the old record-book and called the roll that had been signed at the first meeting in 1880. As the names were called those present told what had become of the former members, how this one had moved here, and that one there, how this one had been dead for nearly 20 years, and how that one had gone into other business, and so on until nearly all of the early members had been accounted for. The home-coming to Andover was within itself a pathetic incident. It had started out from there 18 years before in the full vigor of youth, strong in members, and rich in enthusiasm; and now, after flitting hither and thither, it returned like the prodigal of old, weak and worn, and in a not overly prosperous condition.

The convention was called to order by Pres. Spitler. After the usual preliminary business was disposed of, the first thing on the regular program was an essay on "Spring and Early Summer Management of Bees," by Mrs. C. J. Cornwell. [This and other essays will appear later.—Ed.]

Mr. O. O. Belden followed with an interesting talk on the "Desirability of Preventing Swarms." He argued that while it was not desirable at all times to prevent swarming, it was a very desirable thing to know how to do it; that increase was easy at all times, but the curtailing of swarms was one of the most difficult problems that the bee-keeper with a large number of colonies had to contend with; and very often the success or failure of the season depended upon curtailing, or at least controlling, the swarms. He would manage by putting on sections just when the bees were ready for them. He thought that putting on sections too early would not discourage swarming, but, if anything, rather encouraged it.

Full sheets or starters was the next discust. All present favored full sheets in the brood-chamber, and the majority would use full sheets in the sections.

The advantages of producing extracted honey were set forth in an article by Mr. B. W. Peck.

Mr. M. E. Mason gave a very interesting talk on the "Best and Cheapest Method of Producing Comb Honey." The success or failure of the season, as to comb honey, he considered, depended largely upon the spring and early summer management of the bees. In general, he endorst the management of Mrs. Cornwell for this time of year. He thought that too rapid breeding early in the spring was not desirable, and that when the hives became overcrowded before the honey-flow, it superinduced the swarming inclination. He favored drawing brood from the strong colonies and building up the weak, and he said the successful comb-honey producer must know his flora, and when to expect the honey-flow, and then try to time his bees so that they will reach their maximum strength at the right time to take care of it. His method and system of management was practically the same as the Danzenbaker system.

The next thing on the program was an essay on "Bees as Pollenizers of the Blossoms," by Ed Jolley.

Jefferson, Ohio, was chosen as the next meeting place, and the following officers were elected for one year:

President, B. W. Peck; Vice-President, M. E. Mason; Secretary and Treasurer, Ed Jolley, of Franklin, Pa.

The convention then adjourned to meet Jan. 9 and 10, 1901.

Ed Jolley, *Sec.*

THE AFTERTHOUGHT

The "Old Reliable" seen thru New and Unreliable Glasses.

By E. E. HASTY, Richards, Ohio.

RED-RIBBON YOUR APIARIAN TOOLS.

If you want to be "in town" paint your little tools red (but not the town); then you can find 'em when they get lost in the grass. Some folks, however, dread to meddle with paint. These can tie strips of red cloth to the tools and find it answers the same purpose pretty well. My way (my ideal, at least) is to keep the ground so cleanly hoed that things can not hide very easily. Page 211, Geo. G. Scott.

WAX FROM CAPPING AND VIRGIN COMB.

In Dadant's excellent marketing article, page 211, we read, "Wax from cappings is the very best that can be had." Presumably he means the best which is on the market in large quantities. Wax from select bits of virgin comb would naturally be expected to be much better. But when you come to melt it up it won't look white like the comb does—one wonders why—and your scheme of getting rich by selling half-ounce cakes for ladies' work-baskets is likely to come to grief, just because the "monopolist's" bleacht wax will look so much better than yours. Five cents a cake is $1.60 per pound for your wax—but the money is "sour" like the grapes.

BIG BOTTOM-BOARDS—CHEAP CRUDE OIL.

Bottom-boards 25 feet square, all in one piece—why, they won't do at all, Mr. Jameson. Too big for the bee we now have, and too small for the one we read of a few weeks ago. But California crude oil at $1.50 per barrel ought to be cheap enough paint, if it can be made to dry. Page 212.

SMITH'S SECOND SWARMS.

Those second swarms of S. B. Smith, 21 days after the primes, were mathematically but not bee-ologically "seconds." They were prime swarms of a new series, and somewhat interesting on account of the very brief time they got around in. Presumably the first prime came out with a virgin queen, another queen emerging and taking possession of the old hive the same day. If she got to laying in six days that would leave her 15 days in which to fill the brood-combs with brood, and swarm. Page 213.

AUTOMOBILES AND CANYON ROADS.

The California folks have discovered that the automobile is an "animile" that will not snort, kick, nor run away, not even from an idle California apiary in which the bees have a good dash of Cyprian blood. But I sadly fear the automobile trust will see to it that we don't get that $300 vehicle right away. And, let me see, are the boulders of the canyon roads just the things to run automobiles over? Page 214.

NATURAL SWARMING AND NON-SWARMING.

On the natural-swarming matter I can both yelp with the hound and hop with the rabbit—can be fascinated with Mr. Doolittle, and be disgusted with Dr. Miller to the cows-broken-into-the-garden point. All a matter of "locality" in the almanac. But as years wear on I find the Dr. Millerish aspect of the case arrives earlier in the swarming season than it used to do. Don't anybody who finds a *satisfactory* non-swarming system hide it in the earth to save interrupting my fascinations. I'll intermit often enough to get all the fascination I really need, if somebody'll only give me such a system. Page 217.

PLAN OF FEEDING A POLLEN SUBSITUTE.

Dr. Miller's style of making his bees dig corn-oats pollen from a reversible side-hill is commendable. A similar reversible side-hill can be operated on a big tray of cappings. Page 214.

WATER-CURE REMEDY FOR STINGS.

The success of the wet-sheet pack narrated on page 218, adds one more reason for thinking that the water-cure remedy for stings may ultimately come to be regarded as the standard remedy both for man and beast.

LONG-RANGE SMELTER SMOKE AND BEES.

What E. S. Lovesy says on page 223 about the disastrous effects of smelter smoke seems almost too much for belief; and yet the writer is too reliable a person for us to get away readily thru the gap of incredulity. To kill bees ten miles off is better execution than modern artillery can be depended on for.

MR. HARTER, HIS APIARY AND EXPERIENCES.

Mr. Harter, your apiary, page 225, looks like many other apiaries; but its position with nothing visible between it and boundless infinity, as we look to the horizon, appeals to the imagination somewhat. You didn't say you *always* walk around in shirt sleeves Jan. 19th out there. That nice Italian queen roasted in the sun was rather a sad payment of experience tuition. Sometimes the sunshine is such that it would have been delightful to the chilly queen and her subjects; but sometimes, as you found, it is deadly. This difference seems to be caused by the difference of transparency and amount of vapor in the air. Doubtful if any of us could live an hour tied to a smooth wall in direct sunshine, if the air was *entirely* transparent and free from vapor. It is one of the niceties of manipulation in the apiary to know just when it won't do to leave a queen-cell or a frame of brood where a murderous sun can hit it, even for a little while—and likewise when it would be foolishness to make any particular fuss about the sunshine. If you have a solar wax-extractor which you are trying to run, that will tell you.

MR. AIKIN'S POINTS POINTED OUT.

R. C. Aikin touches a good point (page 226) where he says that 50 pounds of sections stored by one colony will be a better lot, and nicer in finish, than 50 pounds stored by two colonies. But, Mr. A., you're still a little "off" on the swarming question if you think dividing colonies will always prevent swarming. Sometimes increases the total number of swarms.

THAT QUEEN-REARING FIGHT.

In the queen-rearing fight (page 226) I don't assuredly know how matters are, but I guess that *sometimes* Mr. Doolittle's queen, reared by a quart of well impounded bees, would be a tolerably fair one. I somewhat more than guess that the queenless half of a divided colony rears a fairly good queen sometimes. They say "blood will tell;" and even in case a very short-lived queen is reared, if superseding is then allowed to take place naturally (and soon, as it naturally would), is not the ultimate result a queen nearly or quite as good as any? But of course what the queen-breeders should go for is a method, not too bothersome, that will bring a good queen every time as nearly as may be.

WHAT SHALL BE DONE WITH QUEEN-BREEDERS?

Those are strong words of Frank Coverdale, on page 228, that nearly every one of 50 purchast queens fell short of common stock on the honey-gathering point—said queens not being all from one breeder, but from several. Shall we "edicate" our breeders, or stop buying queens, or what?

RENDERING OLD COMB INTO WAX.

Sad to hear that none of the high and mighty methods of rendering old comb into beeswax satisfy Mr. Doolittle. He just puts the old comb into the solar, rubs it up with a trowel once when nice and hot, and takes the consequences. Probably right for small quantities. If the quantity is large, I'm suspicious. If vinegar will do even almost as well as sulphuric acid in cleansing processes, that is quite important. My idea is that bees hate sulphuric acid, and rather like vinegar. Page 228.

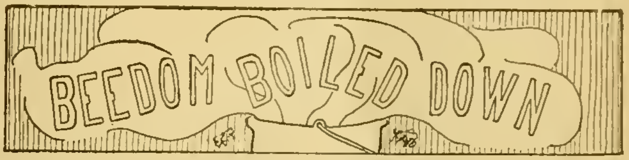
DR. MILLER'S "LITTLE HATCHET"—BASSWOOD GROWING.

And it's a hatchet instead of a knife that the good Doctor scrapes a hive with when he wants to get the propolis out of it! Never should have thought of it.

My idea of basswood is that it grows better self shaded, or even shaded by other trees, than it does in the open. So I think Dr. Miller's answer (page 231), to thin the young basswoods to 30 feet apart, rather rank. The clumps of five I mostly wouldn't thin at all at present, and the clumps of 15 only to 10 feet or less.

BEES WORRYING IN SHIPMENT.

That bees will worry themselves to death on a long journey unless they have either a queen or some unsealed brood to maintain the home feeling, is a point of bee-nature and practical apiculture that some of us might forget if not reminded of it. Presumably, Editor Pender is right about it. Page 234.



Ripe or Unripe Honey for Extracting.—R. C. Aikin takes the ground in the Progressive Bee-Keeper that it is cheaper to extract honey after it is ripened and sealed. G. M. Doolittle combats this, but finally joins hands with Mr. Aikin that honey should never be extracted till well ripened in the hive, because of the all-important matter of flavor, no honey ripened out of the hive being equal in flavor to that ripened by the bees.

To Bleach Pollen-Stained Sections.—Some time ago it was said Byron Walker had a scheme to accomplish this, but he never seemed to have time to tell how it was done. Editor Root has finally learned that the plan is to put the sections in the sun in a window for 2 or 3 days. Sunlight has no effect on travel-stained and greasy sections, the only ones affected being those that appear pollen-stained or have a yellowish coating over the cappings.

Difference in Candying of Honey from Same Lot.—The question has been askt, "Why is it that two jars of honey may be drawn from the same tank of honey, one of them remaining liquid a long time and the other candying almost immediately?" S. T. Pettit says in Gleanings in Bee-Culture it is because in the tank the watery part of the honey rises to the top, the most dense being in the bottom. That drawn first from the tank will differ in density from that drawn last, hence the difference in granulation.

Early Swarms Not Desirable.—A. E. Hoshal says in the Canadian Bee Journal:

> "No doubt some will be bragging next month in our bee-journals about their early swarms in May; we read such accounts almost every year. This does not necessarily mean that their colonies are any stronger than those of many other bee-keepers, who understand their business better, and whose bees consequently have not swarmed; they are simply advertising their failure to prevent them swarming, and proclaiming their ignorance."

The Grape-Vine Apiary was formerly recommended in A. I. Root's A B C of Bee-Culture, and Mr. Root practiced what he preacht by planting a grape-vine for each hive. But it does not seem to be a thing that bears acquaintance, for Editor E. R. Root now says:

> "The grape-vines, our people all voted as a nuisance. The young shoots with their tendrils will sprawl all over, catching in clothing and veils while one is working the hives. While vines afford fairly good shade they need a great deal of care, and then it is practically impossible to work with bee-tents, which we consider so necessary in queen-rearing, during the robbing season."

AMERICAN BEE JOURNAL
ESTABLISHT IN 1861 OLDEST BEE-PAPER IN AMERICA
DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS

PUBLISHT WEEKLY BY
GEORGE W. YORK & COMPANY,
118 Michigan Street, Chicago, Ill.

[Entered at the Post-Office at Chicago as Second-Class Mail-Matter.]

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GEORGE W. YORK.

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IMPORTANT NOTICES:

The Subscription Price of this journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "Dec00" on your label shows that it is paid to the end of December, 1900.

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Advertising Rates will be given upon application.

VOL. 40. MAY 17, 1900. NO. 20.

EDITORIAL COMMENTS

NOTE—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

The Michigan Adulterated-Honey Case.—Accompanying the report of Secretary Mason, on this page, sent to us for publication by General Manager Secor, was the following letter:

FOREST CITY, IOWA, May 3, 1900.
EDITOR AMERICAN BEE JOURNAL.—

Dear Sir:—I enclose copy of report of Dr. A. B. Mason, Secretary of the National Bee-Keepers' Association, who went to Jackson, Mich., at my request, to attend the trial of M. G. Hakes, a groceryman, who was arrested for selling adulterated honey. The report will explain itself, and you are at liberty to use it in the columns of your journal if you so desire.

As the National Bee-Keepers' Association has undertaken the work of aiding prosecutions against the sale of adulterated honey, it becomes my duty to lay before our members, many of whom are readers of your journal, the facts gleaned in the performance of that duty, no matter how unpleasant the facts are to me personally.

Yours truly, EUGENE SECOR,
General Manager.

As Secretary Mason's report speaks so well for itself, it is hardly necessary for us to add any comment on the particular case in question. All of our readers know how bitterly we are against every adulterator of honey, no matter whether he be the humblest member in our ranks, or the highest official. We say, the higher the standing and intelligence of the adulterator, the greater the offense.

We are glad that the National Bee-Keepers' Association presents such a solid and united front against the arch enemy of the producer of honest honey—adulteration.

Dr. Mason's report reads as follows:

Report of the Jackson, Mich., Adulterated-Honey Case and Conviction.

STATION B., TOLEDO, OHIO, April 5, 1900.
EUGENE SECOR, *General Manager of the National Bee-Keepers' Association*—

DEAR SIR:—In complying with your request for a report of the proceedings in the case of M. G. Hakes, of Jackson, Mich., who was arrested and tried in the Circuit Court of Jackson County for the sale of adulterated honey, I have this to report:

On the 20th of January last I received a request from you to attend the trial of Mr. Hakes, as the representative of our Association, and do what I could to help in the prosecution of the case that was to be tried on the 22d. In compliance with your request I attended the trial.

I learned that, last fall, Mr. W. D. Soper, a bee-keeper living near Jackson, Mich., and who also deals in honey, discovered that what he thought was adulterated extracted honey was being placed upon the market at Jackson. He bought a sample of the honey, and sent it to the Michigan State Dairy and Food Commissioner. On Sept. 29, 1899, Mr. Carl Franke, a State Food Inspector, of Monroe, on his regular inspection tour at Jackson, called at Mr. Hakes' place of business and purchast of him two one-pint cans of what he was selling for honey, one of them being labeled and ready for the market, and the other was taken from the original package, a five-gallon can. Mr. Franke had explained to Mr. Hakes that it was his duty "to keep tab on all the foods that were exposed for sale, and also on honeys," and askt him to sell him a package of honey, which he did willingly. The cans were labeled, "M. G. Hakes, Pure Honey, Jackson, Mich."

At the trial of Mr. Hakes in the Circuit Court for the county, in Jackson, Mr. Franke stated, in substance, while on the witness stand, that when food samples were procured for inspection, certain records were made, and in this case the record of the inspector showed that in the sale of this adulterated honey, Martin G. Hakes acted as agent, and that the manfacturer was James Heddon, of Dowagiac, and the package was markt, "Pure Extracted Honey," and was purchast of Mr. Heddon about Aug. 21, 1899.

Another witness, the Food and Sanitary Inspector of Jackson, testified that the original package from which the sample of honey in question was taken had not been opened till Mr. Franke opened it, and that Mr. Hakes acted as agent "for Mr. Heddon, of Dowagiac."

Mr. Franke, on cross-examination, testified that other samples from Mr. Heddon's "place" than the one under consideration had been sent to the State Analyst, and all were adulterated to about the same extent as this, except one of comb honey.

Mr. R. E. Doolittle, State Chemist, of Lansing, Mich., testified to having examined the sample under consideration, and found it to be adulterated honey. The percent of adulteration I do not now remember, but it was large—I believe about 57 percent of glucose.

Mr. Doolittle, in reply to a question by the attorney for Mr. Hakes, said that he had always had the impression that Mr. Hakes was only the agent for Mr. Heddon, and that Mr. Heddon had done the mixing.

In reply to the question, "Was this honey represented to you as pure by Mr. Heddon?" Mr. Hakes testified that a few days before he was arrested (he was arrested Oct. 11, 1899), he was told that he was selling adulterated honey, and he said that he wrote Mr. Heddon a letter, telling him that one man (a stranger) had offered to bet him $25 that the honey was not pure, and Mr. Hakes told him that he "would put up the money any minute; but before I would do it I sat down and wrote a letter to Mr. Heddon, and said to Mr. Heddon: 'I want to know now, Mr. Heddon, if I am selling pure honey, or if I am not.' He wrote me back, stating that 'if my honey goes from me to you, and from you directly to your customers, just as you get it from me, rely upon it, it is strictly pure; but,' said he, 'I would not bet.' That is the first thing that opened my eyes."

At the close of Mr. Hakes' testimony the court instructed the jury, and they returned a verdict of guilty, without leaving their seats.

I felt pretty well satisfied that Mr. Hakes supposed he was selling pure honey, and I believed that the members of our Association cared more for the conviction of those guilty of selling adulterated honey, and stopping the practice, then to punish a party who seemed so innocent of fraud as Mr. Hakes seemed to be; and, being under that impression, I askt the court to impose the lightest penalty the law would allow, which the court did, fining him $25, which I believe was paid by some of Mr. Hakes' friends.

As an officer of an organization that has for one of its objects the prevention of the adulteration of honey, I was very much interested in this case; and as the evidence seemed to indicate that Mr. Heddon was guilty of selling adulterated honey, and that he did the adulterating himself, I have taken some pains to learn if he really was engaged in such business; and the first thing to hand is Bulletin No. 50, of the Michigan Dairy and Food Department, and under the head "Honey," I find this:

"No A 298. Sample of honey (brand 'Pure Extracted Honey') taken from original package at Jackson. Sold (1899) by M. G. Hakes, Agent, Jackson. Producer, James Heddon, Dowagiac." Then follows a statement of the analysis of the sample, and following this are the words, "Glucose flavored with honey."

On the same page of the Bulletin on which the above appears are three other similar reports in which each sample examined was markt "Pure Extracted Honey. Producer, James Heddon, Dowagiac," and on each exhibit is markt, "Glucose flavored with honey."

On the next page of the Bulletin are two more reports, similar to the above, in which James Heddon appears as the "producer," and Mr. Hakes as "agent," and I believe it is claimed there was about the same amount of adulteration in each sample as in the one for the sale of which Mr. Hakes was convicted—about 57 percent.

In an article which appeared in the Farm Journal, of Philadelphia, for January, 1900, in an editorial under the heading, "Food Adulterations," the editor says: "Some important facts on this subject are found in the recently issued Bulletin No. 50 of the Dairy and Food Department of the State of Michigan......Eight samples of honey variously markt as 'Pure Extracted,' 'York State,' etc., were found to be only glucose flavored with honey. Six of these samples claimed to be produced by a person having a name well known and honored among bee-keepers." The other two samples are markt, "Producer, Steele-Wedeles Co., Chicago, Ill."

On Feb. 8, 1900, Mr. Wm. A. Selser, chemist, of Philadelphia, makes this report: "This is to certify that I have analyzed the sample of honey sent, markt No. 1, bought of James Heddon by L. H. Warren, Jennings, Mo., and found the same to be 52 percent to 54 percent adulterations of glucose;" and on the same date Mr. Selser certifies that another sample sent him, "bought of James Heddon by L. H. Warren, Jennings, Mo.," was found to contain "58 percent to 60 percent of glucose."

Wishing to know what Mr. Warren had to say, I wrote him March 12, and in his reply dated March 17, 1900, he says: "I bought 70 60-pound cans of extracted honey from James Heddon, which I received as follows," and then gives the number of cans received at different times, 5 cans in September, 1899; 15 cans at each of two shipments in November, and 35 cans by two shipments in December.

Mr. Warren says: "It may seem strange to you that I bought so much, and will explain. The first lot of five cans which I got as a sort of sample was adulterated very little; but every lot got worse; a small sample of this lot which I have on hand now has granulated solid, but streakt; another lot only looks cloudy......The last lot does not granulate any more than any other glucose......Analysis of this shows 58 percent to 60 percent glucose......Only about 200 pounds of the last lot was turned back on me...... I had no suspicion of this honey being adulterated until I had disposed of nearly all of it......After I found out that the honey was not pure I wrote to Heddon, asking for a written guarantee of its purity......He wrote back, 'I take pleasure in certifying that I shipt you pure extracted honey.'"

Mr. Warren is a member of the firm of Warren & Mange, dealers in staple and fancy groceries, flour, feed, and general merchandise.

In a letter written by Mr. Heddon on Feb. 15, 1900, he says that Hakes "never sold honey for me. *He bought of me*, paying cash in advance......I shipt him *pure* honey, and I rather *think* that he sold it as I shipt it to him. Of course, I do not *know*; and, so far as my *personal* interest is concerned, *I do not care*......I think I have had ample evidence that chemists can not tell adulterated from pure honey......It appears they *guess* at it......In view of Mr. Hakes' testimony, as reported from his customers, if the honey I sent him was adulterated, it would probably be beneficial to both producers and consumers if all honey was adulterated in the same way."

Several years ago, perhaps 12 or 13, some well known bee-keepers felt satisfied that Mr. Heddon was engaged in adulterating honey and selling it to his customers, and since that time several have complained that the honey purchast of him as pure was adulterated before it reacht them, and have stated that the packages they received showed no signs of having been changed or tampered with in any way from the time they were shipt till received by them.

A little over six years ago there was an impression that Mr. Heddon was engaged in adulterating honey; and a chemical analysis of some honey, claimed to have been bought of him, showed that it was adulterated with at least 50 percent of glucose, as was shown in Gleanings in Bee-Culture at that time.

It is possible that this report is too long, and may contain matter that may not have any bearing on or connection with it; but I thought it might be well, in every possible way, to expose the adulterators, whoever they may be, and so put producers, dealers in, and consumers of, honey on their guard against adulterators; and if but a small portion of the statements and affidavits before me are true, one of our own number has gone astray, and, if so, should be exposed.

Very truly yours,
A. B. Mason,
Secretary of the National Bee-Keepers' Association.

The Weekly Budget

The "Fake Write-Up" Crowd.—At a meeting of the Chicago Trade Press Association, held April 26, 1900, the following report was presented, and the members of the Association, and all other class and trade papers (and other publications that can do so) were requested to publish it for the protection of their readers:

"At a recent meeting of the Chicago Trade Press Association, an organization whose membership comprises the most influential trade journals in the West, it was determined to take some action to protect manufacturing and mercantile firms from the depredation of the 'fake write-up men.'

"A number of alleged trade journals (several of them being printed in the Southern States) send out thousands of circular letters to merchants and manufacturers, enclosing proofs of ingeniously prepared write-ups. Each person to whom a letter is directed is led to believe that he has been selected because of the prominence of his firm. The men whom it is sought to victimize are informed that no charge will be made for the printing of this complimentary notice, but that sample copies will be sold at 15 cents per copy, or at 8 cents per copy in thousand lots. These journals have no legitimate standing in the community, and represent nothing except the desire of their managers to extort money from business men. The circular letters are so shrewdly worded, and the office of publication is usually so far removed from the persons to whom the letters are sent, that many firms have been victimized. Almost every deparment of industry is represented by one or more reputable journals, and manufacturers and business men generally are advised to communicate with publishers of whom they have some knowledge before being led into fake schemes.

"The several papers comprising the membership of the Chicago Trade Press Association have agreed to print this statement with a view of protecting their patrons and business men generally, from loss thru such deception."

Belgian Hare Breeding is the title of a pamphlet just publisht, containing 10 chapters on "Breeding the Belgian Hare." Price, 25 cents, postpaid. It covers the subjects of Breeding, Feeding, Houses and Hutches, Diseases, Methods of Serving for the Table, etc. It is a practical and helpful treatise for the amateur breeder. (See Prof. Cook's article on page 292.) For sale at the office of the American Bee Journal. For $1.10 we will send the Bee Journal for a year and the 32-page pamphlet on "Belgian Hare Breeding."

BEE-BOOKS

SENT POSTPAID BY

George W. York & Co. 118 Mich. St. Chicago.

Bees and Honey, or Management of an Apiary for Pleasure and Profit, by Thomas G. Newman.—It is nicely illustrated, contains 160 pages, beautifully printed in the highest style of the art, and bound in cloth, gold-lettered. Price, in cloth, 75 cents; in paper, 50 cents.

Langstroth on the Honey-Bee, revised by Dadant.—This classic in bee-culture has been entirely re-written, and is fully illustrated. It treats of everything relating to bees and bee-keeping. No apiarian library is complete without this standard work by Rev. L. L. Langstroth—the Father of American Bee-Culture. It has 520 pages, bound in cloth. Price, $1.25.

Bee-Keepers' Guide, or Manual of the Apiary, by Prof. A. J. Cook, of the Michigan Agricultural College.—This book is not only instructive and helpful as a guide in bee-keeping, but is interesting and thoroly practical and scientific. It contains a full delineation of the anatomy and physiology of bees. 460 pages, bound in cloth and fully illustrated. Price, $1.25.

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GENERAL ITEMS

Bees Wintered Well.

The bees have wintered well, so far as I have been able to learn, in this section of the country. I lost but one colony out of 42. The heaviest loss that I have heard of near here was 5 percent. The colonies are very strong for this time of year, and will certainly be in great shape for the honey-flow when it comes. ED. JOLLEY.

Venango Co., Pa., April 28.

Perhaps the Queen's Mating.

I wish to tell of something I witnest among my bees yesterday that I have never seen described, altho I have read a great deal of bee-literature. About 2 p.m. I was plowing near the apiary, and coming to the end next to the bees I noticed that they were making considerable noise, so I lookt that way to see if there was not a swarm in the air. There were some low bushes between me and the hive, but I saw rising above them a small cluster of bees about as large around as my hat. Every little while a point would shoot out and the mass would assume the shape of a half open fan, about 2 feet long and 10 or 12 inches wide at the widest part. It wavered about somewhat but the movement was generally upward, not by a regular ascent but with loops and bends; sometimes almost still, when it would assume the circular form, then the point or apex would dart upward again until it reacht about 50 feet in length, when it suddenly vanisht. The distance was too great for me to distinguish single bees in flight, but the cluster was so intense that its outlines were plainly visible. I immediately conjectured that it was a virgin queen taking her wedding-flight followed by a retinue of rival drones, and as soon as the nuptials were accomplisht they disbanded, and were no longer visible to me. I immediately went to the hives known to contain virgin queens, hoping to see her return, but I was disappointed. J. S. SARGENT.

Lee Co., Fla., April 23.

Rendering Wax—Honey-Dew—Toads.

In regard to the article on rendering wax (page 251), I should say, in trying anything that does not have reason in sight, one should expect a failure. If those who have a little wax or bits of comb to save will nail together four boards 12 inches wide, making the ends and sides to suit the glass, tack strips on either side from one end to a little past the middle, the strip being 3 inches from the top at the end, and 9 inches to the top at the other end, put in a V-shape center, tack on a sheet of tin, nail on a bottom, and frame a glass for the top, they will have a solar wax-extractor costing not over 38 cents—the price of the tin and the glass. Block up one end, and be sure to have the V-center at least one or two inches from the end of the tin, lest the wax runs down the strip.

I note what A. J. McBride says about honey-dew (see page 253). Let me say

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This foundation is made by an absolutely non-dipping process, thereby producing a perfectly clear and pliable foundation that retains the odor and color of beeswax, and is free from dirt.

Working wax into foundation for cash, a specialty. Write for samples and prices.

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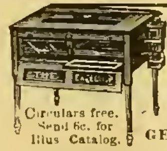

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Being the cleanest is usually workt the quickest of any foundation made.
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Root's Column

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Perhaps you are debating this question now. It is not too late yet to make a trial of these goods this season, and no doubt you would like to know what has been the experience of other bee-keepers who have tried them. We have on hand some

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that honey-dew can cover trees without any insects, altho they perhaps do at least 90 percent of the work. A hot day with a dry spell will, under certain circumstances, crack the leaves, when the juice will issue and the hot sun will boil it down to a sweet taste. I have seen oak-trees drip from this cause, when later in the day it is boiled thick by the sun. Honey-dew is better than saw-palmetto honey.

I believe toads are worse enemies than moths, birds, or roaches. The toads here, if left so that they can get to the entrance, will "pop" more bees than would die in the same length of time. The pop noise they make draws the bees out, and Mr. Toad takes them one after the other. Where a hive is not over 4 inches from the ground, if a ¼-inch-mesh wire 4 inches high, with ends bent so they clamp on the sides of the hive is used, he can see but can not get the bees, as this wire is from 2 to 2½ inches out. If the alighting-board is 4 inches, place the protector half way and they can be left on all of the time. If the board is only 2 inches it is better to remove the wire during the day.
JAY S. BROWN.
Bradford Co., Fla.

Fine Spring for Bees.

We have had a fine spring for bees. Some of my colonies increast in weight over 15 pounds in 3 days, from white willow—April 29, 30 and May 1—but a frost on the night of May 1 stopt it.
W. H. REED.
Fillmore Co., Minn., May 3.

Bees Wintered Better Than White Clover.

I find the bees all over Wisconsin have wintered well—better than the white clover in the lower tier of counties.
N. E. FRANCE.
Grant Co., Wis., May 4.

Experience with Bees in California.

My first experience as a bee-keeper dates back to the fall of 1895 when I began by taking bees out of trees and rocks. In the spring of 1896 I bought 16 colonies for $40 on 60 days' time, at one percent per month. They were in old hives of the J. S. Harbison pattern, and badly split at that. I lost 2 colonies in moving them, and did not get a single pound of honey or a swarm that season.

The spring of 1897 was more favorable, and I left my bees for my father and brother to take care of while I went to work for a neighbor who had 3 apiaries. I workt for $20 per month and board, lodging, and experience, the latter being of more value than all the rest. Any man who has not had experience with bees will do well to work with an experienced bee-keeper one season before going into the business.

The season of 1897 we secured 11,040 pounds of extracted honey from 86 colonies, spring count; 1898 was a dry season and we had to move the bees to save them. I moved about 300 colonies nearly 75 miles on a wagon and lost only 3 colonies in so doing. We secured about 1,000 pounds of honey that season from 115 colonies. 1899 was also a dry season. From 116 colonies

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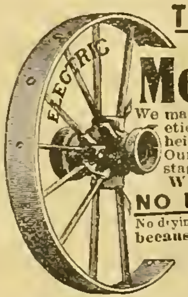

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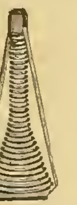

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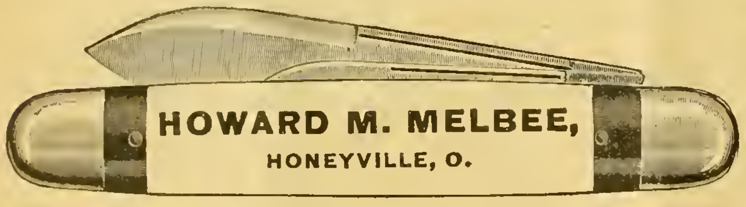

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Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

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Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your Pocket-Knife will serve as an identifier; and in case of death, your relatives will at once be notified of the accident.

How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

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☞ Please allow about two weeks for your knife order to be filled.

we secured about 1,560 pounds of extracted honey, and moved our bees about 60 miles on a wagon without losing any. This year promises to be a poorer year than any since I have been in the bee-business.

In 1898 I bought 7 colonies of bees, and when looking them over in June I found that one had lots of dead brood which was brown and ropy and smelled bad. I burned it, fearing it might be foul brood. At that time I did not read a bee-paper and did not know anything about foul brood. This season I have found one case of the same disease and have given it the same treatment. In both cases the extracting-super was full of capt honey, but as my motto is "Practice what you preach," that was burned also. Was this foul brood or black brood? I think my treatment a sure cure in either case.

In regard to painting apiarian tools (see page 211)—no insinuation meant—it looks to me as tho the man who has not time enough to keep the grass cut out of his bee-yard has not time enough to attend to bees at all, especially when the season is as dry as ours.

Subscriber.

San Diego Co., Calif., April 14.

Bees Strong and Will Soon Swarm.

Our rose-bushes are full of buds, and will soon be in bloom. Our fruit-bloom is about over, and the bees will have to take to the willows and wild flowers. Bees are very strong, and will be swarming soon. I wish I could keep them from swarming, but these "dagos" that I have will swarm, and I guess I will have to let them.

Sampson Stout.

Cowley Co., Kans., April 30.

No Spring Dwindling.

Bees in this country wintered generally very well, and are in a great deal better shape than last year. There has been no spring dwindling.

Gustave Gross.

Vernon Co., Wis., May 3.

Easy Method of Transferring.

We have had a very mild winter in this part of our State and the bees seem to be all right. We have had but few losses, most colonies are strong, and bee-keepers are looking for a good year.

As I have noticed nothing in the Bee Journal that approacht my method of transferring I will give it, altho it may be an old one. I have always disliked the work, but when I had an opportunity to buy bees at $1 or $2 per colony I would buy them and transfer.

Three years ago I purchast quite a number of colonies, and when the time came I began the work of putting them into new hives, but after working about one day I became tired of the job and tried to devise some way of doing the work easier. After thinking the matter over I came to the conclusion that it was natural for bees to store honey above the brood-nest, and I would try an experiment. I therefore took a hive with frames and starters and put it under the one I wisht to transfer; in short, I tiered up, and left the bees to their own sweet will, and as a result at the end of the honey-flow I found my bees transferred and the upper story or old hive with the crooked combs filled with honey. I then put on a Porter bee-escape and in about two days had the bees all out and the crooked combs in the solar extractor. Since then I have followed this plan, but I would recommend using full sheets of foundation instead of starters as the bees will make better—and all-worker—comb.

Now transferring has no terrors for me. Last season I tiered up some with supers and sections, finding that they were being crowded for room, and they filled them also.

I had several hives last season with the bottoms nailed on. These I simply turned bottom up, closing up the entrance and putting bee-space sticks crosswise on the top of the frames in the bottom hive, to keep the frames from being fastened together.

I have tried this plan of transferring for 3 years or more, and it works all right. W. W. WHIPPLE.

Arapahoe Co., Colo.

Cool and Dry Weather.

We are having cool, dry weather, but brood seems to be going ahead as usual at this season. I put my bees out of the cellar April 8. They were in winter quarters 4 days less than 5 months. Brood is now hatching.

T. F. BINGHAM.

Clare Co., Mich., May 7.

Bees in a Telephone-Box.

Several months ago a swarm of bees settled in a telephone switch-box on Vanderbilt Avenue, just below Park Place, Brooklyn. About 8 o'clock one morning in December, a couple of linemen came along and lookt up the post on which the "bee-hive" was percht. The neighbors immediately suspected what was the matter, for all took an interest in the "hive," and had pointed it out to their friends as one of the things that helpt to make Brooklyn unique. Many rusht out to watch the proceedings and offer advice.

"You go up and open the switchbox," said one of the linemen.

"Not on your spurs," said the other.

"Why, it is rank folly to talk of going up and opening that box when it is full of bees," said a man in a smoking-jacket. "The way to do is to take the box down very gently at night and then place it over a hole in the ground that has a sulphur candle in it and cover the whole thing with a horse-blanket. The sulphur smoke will kill all the bees and you can then take out the honey without any trouble."

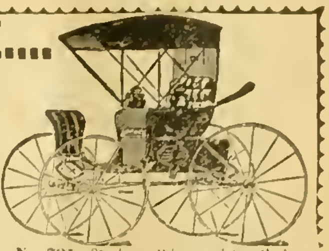
"Great head," said one of the linemen. "Now if you tell me how to take down a switch-box full of live wires and bees in the dark of the moon, I'll go snacks with you on the honey."

"Aw, stop guessing," said the other lineman, who had something of an air of authority. "Put on your rubber gloves and go up and hoist them bees down."

The man did as he was ordered and the crowd scattered back. He shinned up the post and opened the switchbox. There was no excitement.

"Say, the bees are all stupid with the cold," said he. "Um-m-m, but there is a lot of honey in here."

"Pick it out carefully," called out a man, "and I'll buy it from you. I have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to investigate the difference between our prices and those of agents and dealers for the same grade of work.
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No. 48—Single Strap Collar and Hame Harness, [illegible] with nickel trimmings, $[illegible]. Good as sells for $16.
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Untested Queens ready in May. Tested, Selected, and Breeders, are from last season's rearing, ready now.
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Prices of Buttons alone, postpaid: One button, 8 cts.; 2 buttons, 6 cts. each; 5 or more, 5 cts. each. (Stamps taken.) Address,
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an idea that electric honey would be a new thing on the market, and would make a hit."

Just then something happened. The lineman had wrencht loose the honey, and the bees, which had simply retired to the warmest corner of the box behind the comb, buzzed out into the face of the marauder. For the next few seconds no one within ear-shot would have recognized the fact that Brooklyn is the City of Churches. A bee with a tail like a live wire and the activity of a Tesla oscillator, located itself behind the enemy's ear and sent about 2,000 volts thru his bump of combativeness. With a yell he started on a disorderly retreat and reacht the ground in two slips and a jump. But the cold air soon stupefied the bees and in a few minutes they were all lying on the ground as if dead. In an almost equally short time the face of the lineman lookt like a South African landscape. There was a kopje on his right cheek, another on his left eye, and others scattered around his face in wild disorder.

"You should have your face insulated before trying to deal with electric bees," said a professional joke-writer in the crowd, and then he stopt to make a note on his cuff..

Policeman No. 2805 appeared on the scene.

"What's the matter here?" he inquired in his professional tone.

"Just a little eviction," said the joker.

"What's this? Bees? Who's been havin' bees inside the city limits? There is an ordinance against it, I think," observed the cop.

The case was explained to him and

100 COLONIES OF ITALIAN AND CARNIOLAN BEES FOR SALE; all in new movable-frame hives. Send stamp for price-list.
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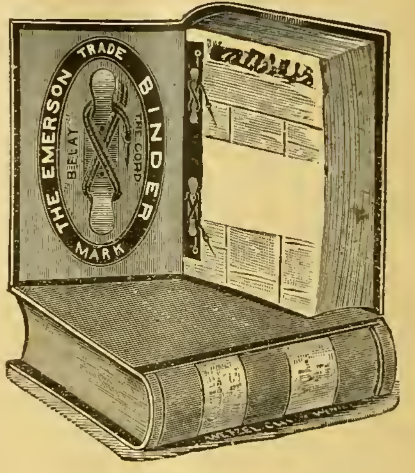

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

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It contains no narcotics nor bromides nor other injurious drugs. We give the formula with every box. You know exactly what you are taking. Originally put up for physicians' use. Ask your druggist for a

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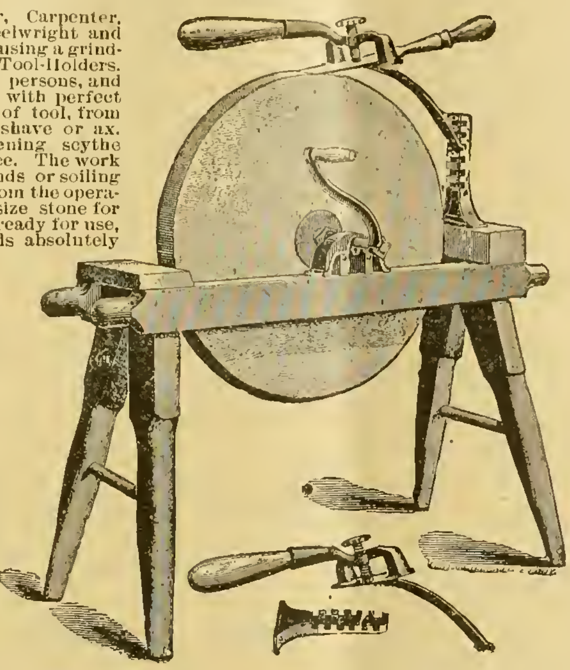

Every Manufacturer, Miller, Carpenter, Cabinet Maker, Machinist, Wheelwright and Quarryman, Farmer, or any one using a grindstone, should have one of these Tool-Holders. One boy can do the work of two persons, and grind much faster, easier and with perfect accuracy. Will hold any kind of tool, from the smallest chisel to a draw shave or ax. Extra attachment for sharpening scythe blades included in the above price. The work is done without wetting the hands or soiling the clothes, as the water flows from the operator. It can be attached to any size stone for hand or steam power, is always ready for use, nothing to get out of order, and is absolutely worth **100 times its cost.**

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DIRECTIONS.—The Tool is fastened securely in the Holder by a set-screw and can be ground to any desired bevel by inserting the arm of the Holder into a higher or lower notch of the standard. While turning the crank with the right hand, the left rests on an steadies the Holder; the Tool is moved to the right or left across the stone, or examined while grinding, as readily and in the same way as if held in the hands.

For grinding **Round-Edge Tools,** the holes in the standard are used instead of the notches.

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he became good-natured at once. In the meantime different persons pickt up pieces of the honey and after brushing off the dust began to eat it. Those who tried it assert that it was fine.

[The above account was taken from the Brooklyn Sun, and sent to us by Mr. Geo. P. Prankard, of Bergen Co., N. J.—EDITOR.]

Wintered Better Than Ever.

My 98 colonies came out of winter quarters in better condition than ever before—very strong and with a good many young bees. I put them out April 6, and on April 7 they were carrying in pollen. One colony was queenless and one rather weak so I united them. This leaves me 97. I was 79 years old on April 7. Don't you think it is about time for me to quit the bee-business? JOHN TURNBULL.

Houston Co., Minn., May 3.

California Queens.

OF PURE ITALIAN STOCK.
(THREE-BANDED.)

No other bees within a radius of TEN MILES. Eight years' experience in practical bee-keeping. Untested Queens, 90 cts. each; $9 per doz. Discounts after July 1. Write for price-list.
18A13t H. L. WEEMS, Hanford, Calif.

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SELL ROOT'S GOODS AT ROOT'S PRICES. Our inducements are first-class goods, cheap freight rates, and prompt shipments. Send for catalog. BELL BRANCH, MICH.

ALBINO QUEENS If you want the most prolific Queens—If you want the gentlest Bees—If you want the best honey-gatherers you ever saw—try my Albinos. Untested Queens in April, $1.00; Tested, $1.50.
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of Northern Illinois, Wisconsin, Minnesota and Michigan, there are hundreds of the most charming Summer Resorts awaiting the arrival of thousands of tourists from the South and East.

Among the list of near-by places are Fox Lake, Delavan, Lauderdale, Waukesha, Oconomowoc, Palmyra, The Dells at Kilbourn, Elkhart and Madison, while a little further off are Minocqua, Star Lake, Frontenac, White Bear, Minnetonka and Marquette on Lake Superior.

For pamphlet of "Summer Homes for 1900," or for copy of our handsomely illustrated summer book, entitled, "In the Lake Country," apply to nearest ticket agent or address with 4 cents in postage, Geo. H. Heafford, General Passenger Agent, Old Colony Building, Chicago, Ill. 20A3t

Convention Notice.

Michigan.—The Northern Michigan Bee-Keepers' Association will hold their second annual convention at Petoskey, Mich., May 19, 1900. E. E. COVEYOU, Sec.

Petoskey, Mich.

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The BEST FAMILY TRADE in Honey and Maple Syrup in U. S. A.

Best Clover and Basswood Honey was sold for 25 cents a pound past winter.

Residence telephone connecting with 5,000 other residence 'phones.

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Address, X Y Z, care American Bee Journal.

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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, April 19.—Market is well cleared of white comb honey; a little choice has sold recently at 16c, but dark and mixt goods are slow of sale. Extracted, white, 8@9c; amber, 7@8c; dark, 6@7c, according to quality and package. Beeswax in good demand at 28c.
R. A. BURNETT & Co.

CINCINNATI, March 3.—There is some demand for extracted honey from manufacturers at 7@7½c for amber and Southern; clover, 8@8½c. Comb honey is selling firm at 14@16½c in a small way. Beeswax, 25@27c.
C. H. W. WEBER,
Successor to Chas. F. Muth & Son and A. Muth.

BOSTON, March 9.—Our honey market is showing some signs of lower prices, altho the stock on hand is not large. At the same time prices are so much higher than previous years that the trade have taken it very slowly and the results are that the holders are willing to range prices quite a little in order to move stock on hand. Prices range: Fancy white, 17@18c; No. 1, 15@16c; amber, 10@12c; buckwheat almost unsalable. Extracted, best white California, 8½c.
BLAKE, SCOTT & LEE.

KANSAS CITY, May 9.—We quote: No. 1 white comb, 14@15c; No. 1 amber, 13@14c; No. 2 white and amber, 13@13½c. Extracted, white, 7½@8c; amber, 7c. Beeswax, 22@25c

The receipts and stock of honey on hand are light; demand fair. C. C. CLEMONS & Co.

DETROIT, Apr. 23.—Fancy white comb, 15@16c; No 1, white, 14@15c; amber and dark, 10@12c. Demand and supply both limited. Extracted, white, 7@7½c; amber and dark, 5@6c. Beeswax, 26@27c. M. H. HUNT & SON.

BUFFALO, April 20.—For strictly fancy white one-pound comb honey we are getting 16@17c. Any grade sells high—10@15c, as to grade.
BATTERSON & Co.

NEW YORK, April 9.—Market is practically bare of comb honey of all description. Little lots arrive here and there and sell readily at from 10@11c for buckwheat and 12@15c for white, according to quality and style of package. The market is well supplied with extracted, which we think, however, will be moved before the new crop arrives. Beeswax is in good demand at from 27c to 29c per pound.
HILDRETH & SEGELKEN.

SAN FRANCISCO, Apr. 25.—White comb, 11½@12½c; amber, 8@10c. Extracted, white, 7½@8c. light amber, 7@7½c; amber, 5@5½c; Beeswax, 26@27c.

Small quantities of new crop have been received, but not enough has been yet done in the same to clearly define values. Current quotations would not likely be sustained under anything like free offerings. The yield will undoubtedly prove light, and the market shows a generally firm tone.

OMAHA, Mar. 13.—Demand shows some improvement in January, having been much more active, but as anticipated there is no advance in prices. Market remains steady at 14@14½c for fancy white comb and 8½c for white extracted. The latter is pretty well cleaned up along the Missouri River, and it looks as if there would be some shortage before another crop comes in. From present appearances there is about enough comb honey to go around at the present prices, hence we look for no particular change in values. PEYCKE BROS.

BEES QUEENS Smokers, Sections, Comb Foundation And all Apiarian Supplies cheap. Send for FREE Catalogue. E. T. FLANAGAN, Belleville, Ill.

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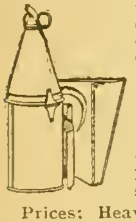
made of sheet-brass which does not rust or burn out should last a life-time. You need one, but they cost 25 cents more than tin of the same size. The little pen cut shows our brass hinge put on the three larger sizes.



No wonder Bingham's 4-inch Smoke Engine goes without puffing and does not

DROP INKY DROPS.

The perforated steel fire-grate has 381 holes to air the fuel and support the fire.

Prices: Heavy Tin Smoke Engine, four-inch Stove, per mail, $1.50; 3½-inch, $1.10; three-inch, $1.00; 2½-inch, 90 cents; two-inch, 65 cents.

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BINGHAM
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BINGHAM SMOKERS

are the original, and have all the improvements, and have been the STANDARD OF EXCELLENCE for 22 years. Address,

T. F. BINGHAM,
Farwell, Mich.

I ARISE

To say to the readers of the Bee Journal that

DOOLITTLE...

has concluded to sell **QUEENS** in their season during 1900, at the following prices:

1 Untested Queen	$1.00
3 Untested Queens	2.25
1 Tested Queen	1.25
3 Tested Queens	3.00
1 select tested queen	1.50
3 " " Queens	4.00
Select Tested Queen, last year's rearing	2.50
Extra selected breeding, the **very best**	5.00

Circular free, giving particulars regarding each class of Queens, conditions, etc. Address,

G. M. DOOLITTLE,
11A26t Borodino, Onondaga Co., N. Y.

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23rd Year **Dadant's Foundation.** 23rd Year

Why does it sell so well?

Because it has always given better satisfaction than any other.
Because **in 23 years** there have not been any complaints, but thousands of compliments.

We guarantee satisfaction.

What more can anybody do? BEAUTY, PURITY, FIRMNESS, No SAGGING, No LOSS.
PATENT WEED PROCESS SHEETING.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

BEE-KEEPERS' SUPPLIES OF ALL KINDS.

Langstroth on the Honey-Bee, Revised.

The Classic in Bee-Culture—Price, $1.25, by Mail.

Beeswax Wanted at all times.

CHAS. DADANT & SON,
Hamilton, Hancock Co., Ill.

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DR. MILLER'S

Honey Queens

One Untested Queen Free as a Premium for sending ONE New Subscriber to the American Bee Journal for one year.

We have been fortunate in making an arrangement with DR. C. C. MILLER—the well-known honey-specialist—to rear queens EXCLUSIVELY FOR US DURING THE SEASON OF 1900. These Queens will be mailed in rotation, beginning about June 1, so "first come first served." We are ready to book orders now.

The Queens Dr. Miller will send out on our orders will be precisely the same as those he rears for his own use, so of course they will be from his best stock. His best colony in 1899 had a queen reared in 1898; May 5, 1899, it had brood in 4 frames, and he gave it at that time a frame of brood without bees. It had no other help, but May 25 a frame of brood with adhering bees was taken from it, and the same thing was repeated June 3, leaving it at that time 5 frames of brood. It stored 178 sections of honey, weighing 159 pounds (and that after July 20, in a poor season), being 2⅔ times the average yield of all his colonies. A point of importance is the fact this colony did not swarm, and an inspection every week or 10 days showed that at no time during the entire season was there even so much as an egg in a queen-cell. Dr. Miller expects to rear queens from this one during the coming summer.

The demand nowadays is for **BEES THAT GET THE HONEY** when there is any to get, and Dr. Miller has such bees. You will want to have a queen from his best, we are sure, even if she is not pure Italian.

Do not send any orders to Dr. Miller, as all orders **MUST** come thru us, according to our agreement.

Remember, send us $1.00 for **ONE NEW SUBSCRIBER** to the American Bee Journal for one year, and **YOU** will get ONE OF DR. MILLER'S UNTESTED HONEY-QUEENS FREE AS A PREMIUM. This offer is made *only* to our present regular subscribers. Orders for queens to be filled in rotation, beginning about June 1st.

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GEORGE W. YORK, Editor.

AMERICAN BEE JOURNAL

ESTABLISHT IN 1861 OLDEST BEE-PAPER IN AMERICA

DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS.

40th YEAR. CHICAGO, ILL., MAY 24, 1900. No. 21.

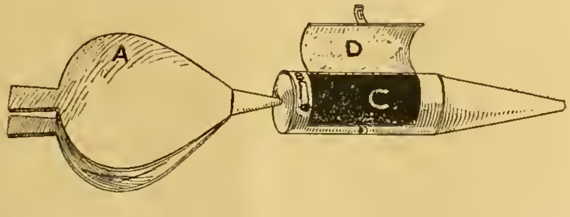
CONTRIBUTED ARTICLES

Something About the Bellows Bee-Smoker.

BY T. F. BINGHAM.

IN his article on page 50, "Old Grimes" claims for M. Quinby what I think there is a lack of evidence that M. Quinby ever claimed himself, viz.: that he was the inventor of the *bellows* bee-smoker. In the position he occupied it would have been impossible to have been ignorant of the position and details of the old German bellows bee-smoker in common use in the old country, and brought to this land by bee-keepers who came here bringing their knowledge and implements.

After bee-keepers learned that an improvement in bee-smokers had been made, they would come to me in their enthusiasm to tell me of their old bellows bee-smoker, and compare it with the new wonder that would burn anything and not go out. Of course, I exprest a wish to see the smokers, as I was very much interested in them. I learned of several, and one bee-keeper offered to give me his old one as a curiosity, and I gladly accepted it. I kept it, with one of M. Quinby's earliest makes, as curios till my smoker factory was destroyed by fire, and with it my precious old smokers. It was a finely made affair, with a nicely fitted hinged door, and a slide vent to be used when the smoker was laid down, showing plainly that it was made in large numbers for sale, and not as a single experiment. I enclose a rough sketch of it. It will be observed that all the change necessary to make it a first Quinby would be to bend the exhaust in such a manner that the fire-box would stand upright, and the bellows stand on end instead of lying down. Of course, it had the same tendency to go out as the Quinby invention Mr. Grimes refers to—neither of them would keep sound wood burning—unless the bellows was workt.



I think M. Quinby never claimed that he invented the bellows bee-smoker, but that he did invent the Quinby bee-smoker. And I have never been accused of claiming the invention of the bellows bee-smoker, that I know of. But I do claim to have invented the first bellows bee-smoker that would burn anything combustible without working the bellows, and not go out. Clare Co., Mich.

Pollination the Best Work of the Honey-Bees.

BY PROF. A. J COOK.

THE castor-oil plant is a very beautiful and a most interesting plant. The rich color, the vigorous habit, the finely cut leaves, and, perhaps most of all, the curious bloom can but attract and greatly interest any who give it careful attention. It is one of those plants that cry out in its very structure in loudest praise of the mission and work of the honey-bee. I now have very interesting classes of 38 who are studying these things, and all have studied this plant with enthusiastic interest. Bee-keepers may well feel very kindly towards this plant, for it is always praising the bees. The flowers are in a crowded raceme, almost a spike, and with the similarly colored leaves of rich, brownish red are most pleasing to look upon.

The most interesting thing of these flowers is the fact that they are monœcious. By this we mean that the pistillate flowers—those that have only pistils and bear the seeds—are separate from the staminate ones, or those that bear only stamens, and of course can never bear seeds. These flowers are not only on the same plant, as is the case with all monœcious plants, but in this case they are in the same flower cluster. In many plants like the willow the staminate and pistillate flowers are on different plants. These are called diœcious.

In the plant in question, the pistillate flowers are at the tip of the flower cluster, and open before the other flowers do. Thus these flowers are pollinated before the basal or staminate flowers open. Thus the pollen for which they hunger must come from other flowers. Before the closely neighboring and as closely related staminate flowers are open at all, they are well along in the race of development. The staminate flowers do, however, aid the others indirectly, as they are rich in color, and are a signal to the bees that here is rich nectar for them, and that they can not afford to pass it by. Later, after the seeds have developt quite considerably the staminate flowers open, and offer to the bees their rich stores of pollen, which is thus borne off to other pistillate flowers to fructify other ovules, or embryo seeds, that they may push on towards fully developt seeds.

Two important truths are gathered from this interesting plan of the castor-oil plant. First, the waiting pistillate flowers would starve for the needed pollen and come to naught, were it not for the kindly ministries of nectar and pollen loving insects, chief and by far the most important of which are the honey-bees. The ovules, to develop, must have pollen, and that must come from other flowers, perhaps from a long distance away. The other point is equally patent: "Nature abhors close fertilization." She enforces cross-pollination in case of the castor-oil plant. She does the same in more emphatic words in case of all diœcious plants, like the willow, oak, and walnut. Here the pollen must come from other, very likely far distant, plants, and the aid of bees is still more imperative.

In many hermaphrodite plants where the stamens and the pistils are side by side in very close proximity in the same flower, as in case of many pears, apples, and other fruit, the same law is announced in the fact that these fruits are sterile to their own pollen. We find the same truth proclaimed in the higher, animal realm. Closely inbred cattle are more ready to contract disease, like consumption, than those not consanguineous. The laws in some States against intermarriage of near relatives is not the creature of a nervous imagination. Ask Nature, and she will say, "Don't."

Close investigation, carried on by myself and many others, has shown that this necessity of cross-pollination is very general. With most of our valuable plants we can not hope for full fruitage unless there is opprtunity for this cross-pollination. In many cases the cross-pollination must be provided for or there will be no crop at all. I have a case in point: A sister living on the Sacramento River has a large and very productive orchard of pears, apricots, cherries and prunes. I visited her in 1891, and she askt me regarding the reason that her orchard was producing less than formerly. The trees *bloomed heavily*, but the fruit *did not set*. I askt if there were not more bees formerly than at that time. She bethought herself and answered yes. I said when good, vigorous trees blossom heavily and do not fruit well, always suspect lack of pollination. She at once engaged an apiarist to move his bees to the place, and at once received markt benefits. She has kept the apiary there ever since. She feels that she can afford to pay for the presence of the bees, and she is right.

I visited her the other day, and upon examination it was found that trees in near proximity to trees of other varieties were setting far more freely than those farther off, and the decrease was very markt. This was a very graphic object lesson. I have no doubt but the annual loss from the absence of bees and the planting of varieties in solid blocks, is tremendous. We have our orchards in great proportion, often hundreds of acres in one place. Indigenous or native insects can not do the large work of pollination, and we must bring the bees to the rescue. No doubt "Good cultivation" may well be the motto of the orchardist, but close along side should be the second one, "Mixt varieties and the honey-bee."

We have had two fine rains within a week, the best of the season. They are late for the honey product, but will do immense good, and may help the bee-keeper. The alfalfa fields are increasing very rapidly, and will in the future become more important even than in the past, as a source of excellent honey. Los Angeles Co., Calif., May 11.

NO. 8.—COMB HONEY PRODUCTION.

Method of Taking off Supers—When and How.

BY R. C. AIKIN.

THERE seems to be much difference of opinion as to how to get supers off and free of bees. This is like many other things in the business, just what and how to do depends upon circumstances.

In the midst of the flow, when bees are busy in the fields, they will often allow honey to stand exposed all day and not rob. At such time the removal of supers of sections is a very easy matter, about as easy as anything we find to do in the apiary. I begin at one end or corner of the apiary and work regularly over it, lifting the cover and looking at each to see if anything needs to be done to supers. I have a pile of empty supers ready carried into the apiary, and wherever one is needed I give it as directed in the preceding article, and where I find a super ready to take off I remove it in this way:

If I know before opening the super that it is ready to take off, if it be on top I begin to pry up the cover and shoot smoke under it as quickly as there is a crack big enough. I start the cover gently, not necessarily slowly, but so the bees are not angered, pumping the smoke hard enough to spread it all over the section tops (I use a board cover), frightening the bees, but not making them angry. I do not smoke in the entrance at all, not using smoke about the entrance except when they are touchy, when I give enough over the alighting-board to frighten back the guards.

Having started the smoke over the sections in this way, the bees start running down, and without delay I keep the smoke right up after them, and do not let them have time to stop running. Do not smoke clear down thru the super at once, but keep the smoke right *after* them so they will *keep on the run*. It is hard to describe so you can do it the first time, but after reading this description you can very soon get the knack if you try carefully. As soon as the *bulk* of the bees have past below, very quickly remove the super, and turn it up endwise on the left arm till it is perpendicular, or a little more, so it will rest back against the arm, and, with a proper sweeping-instrument, *at once* sweep the bees off the bottom, and then stand the super on *end* on a hive or the ground.

The best broom I have ever found is a wisp of grass about as long and big as my arm, and wrapt with stout cord in two or five places. Make it out of slough-grass, or some long-bladed kind, and not too stemmy or stiff. Keep the brush in the yard, tighten the cords occasionally, and when it gets dry and brash dip it in water. Such will sweep almost the entire bottom of a super at one lick.

Notice that these operations must be done promptly. From the time you start the cover till the super is off and the bees brusht from the bottom, and the super is standing on end out of your hands, is much quicker than you can read this description, the only stop necessary is just a few seconds, or a minute to allow the bees time to run down. If you get to dallying, and let the bees turn back to recover the combs, you will find it harder to drive them down the second time. For this reason it is important to determine quickly whether the super is ready to come off, and proceed at once to get it off.

If it is necessary for me to look to see if it is ready, I very frequently look at the bottom of it *first*, by prying it up at one end, the other still resting on the hive, and as the bees retreat upward I see very quickly if the sections are finisht at the bottoms, particularly the outer corners, and, if ready, at once let it down in place again, and send the bees down from the top before they have recovered from their first fright.

In this way I go thru the yard taking off supers and standing them on end, usually on top of the hive from which taken; putting on empties where needed; shifting a bottom super to the top, or *vice versa;* and, whatever is needed in the arrangement of supers, doing the whole job regularly. Thus the yard is put in shape to wait several days or a week for another similar overhauling.

After I get thru with the removing, putting on and arranging supers, I carry in those scattered about the yard. If the honey-house is right by I do not take much pains to get any bees out that still remain, but take the supers to the honey-room and stand them on end again before a window screened, but with an escape of some kind. The remaining bees will very soon pass out at the window, and the supers can be piled regularly later.

If many bees are yet in the supers when I get ready to carry them in, and I want them all out, I smoke thru the super, holding the smoker in the left hand usually, the brush in my right, and as fast as they come out I sweep them off. If this process be gone thru with when there is honey being gathered, it is a very quick and successful method. It will not do to leave supers about the yard when bees would rob. Neither should the work be done in the early morning unless there be unsealed honey in plenty for the bees to load their sacs, better wait a little till enough bees come from the field so they are already loaded.

But the time when the great danger comes is when no nectar is being gathered, and more so if the honey is nearly all sealed, for then the bees will bite open the cappings to get their sacs full, and so mar the sections. At such times it is possible to send the bees down *on the run* before they can think of cutting open sealed cells, and care must be exercised to drive them nearly all out before stopping. Also, when a super is off the hive go at once with it to the honey-room to keep it from robbers. A careful taking off of honey in this way will prove most expeditious, and will get it off in good shape and free from any serious puncturing of cappings by the bees.

If the honey-house is distant, a small room or tent by the apiary will be very convenient to keep supers in over night. Take off in the middle of the day, and very few bees will be left in over night; if any should remain they hunt home early in the morning. I practice this almost exclusively, and can take off a ton of honey in a very few hours at most, when not doing other work with this. My escapes are on the windows. I have some in the shop, but never use them. This plan leaves the escape out of sight when used in a board to place under the super.

It may look to many as if it was a lot of work to do so much watching and manipulating of supers—it does take some time, but it is time *well spent*. Have every hive equipt with a honey-board above the brood-combs, so there are no burr-combs built to the section-bottoms; a bee-space and board-cover over the sections, then it is a very simple matter to handle supers. They should come off clean, and *no* *drip whatever* from burr-combs or attachments between supers, or super and brood-combs.

This does not close all I have to say about comb honey, but as I want all to be seasonable, I will in the next article take up the question of the *production of extracted honey*. After the production has been discust, we will consider grading, packing, and marketing. I ask for these articles a careful reading, and if there is anything amiss anywhere I would be pleased to have any one point it out.

Larimer Co., Colo.

Causes of Large Losses of Bees in the Winter and Spring of 1899, in Clark Co., Wis.

Written for the Wisconsin Convention, held at Madison, Feb. 7 and 8, 1900,

BY HERBERT CLUTE.

It is hard to say what was the real cause of the loss of bees, as there are so many bee-keepers that differ; but I wish to give the causes as I see them, and as I have persuaded others to see them, altho they would have it that it was bad honey, until they had examined the hives.

To begin with, on July 25 and 26, 1898, we had rain with some hail. This shut the bees off the latter part of the basswood bloom, and ruined the nectar-bearing plants. From that date until the bees went into winter quarters, they never gained a pound, according to the scales under the hives. They even lost three to four pounds per day for some days, regardless of the great amount of brood in the hives that consumed much feed. There was lots of pollen coming in that deceived a portion of the real loss, so that I say our great loss was by starvation, and nothing else.

In my Greenwood apiary the bees were placed in the root-house, as I knew that they were light, and it takes little honey there to last until spring, and the chances were that I would have to feed them. When spring came all were placed on the summer stands, very strong in bees, but light in honey. I noticed a large number had not over a pound of honey, while 20 colonies perisht before being put out without any honey. The covers on some of those put out did not fit tight. At this time I received a telegram notifying me of my father's sickness, and I had only an hour and a half to catch the train. I saw a young man that promist to fix the covers and feed the bees the one-half barrel of extracted honey, and also a large amount of honey in extra combs, which I had saved for that purpose. In a couple of days he wrote stating that he had fed the bees, and I did not worry so much about them after that.

It was 12 days before I could return, and, when I did, I found that over 180 colonies had perisht, and the rest were lighter than the day they were put out. In looking at the feed in stock I found that not over 15 pounds had been used for the whole apiary. Of course, the young man did the best he knew how, altho it was very different from what I had told him. I fed at once so as not to lose any more, and they were very weak.

Hearing of other heavy losses I visited George Drinkwine, who had the same number of colonies as I had and had lost as many. He claimed that the cause of the loss was bad honey, and would have it so, until we examined the hives where bees had died, and found that there was honey excepting in a few of the outside combs.

I then called on Walter Miller, who lost all but two out of 70 colonies. His bees had been in a very cold place, so they had consumed lots of honey, and were starved long before spring.

One lady had 12 colonies in a garret that was quite warm, and the bees being disturbed, consumed lots of honey, and the hives were empty of feed long before spring. Another lady lost 70 colonies in a bee-cellar that was heated by pipes; she had wintered them before in this cellar and had never lost any.

Of the 30 different apiaries in this county the loss was from 50 percent to an entire loss, except two apiaries that were fed plenty of honey—more than their year's gathering. These apiaries did not lose a colony, but were very strong. One of these yards containing 25 colonies was increast to 35, and produced an average per colony of 160 pounds of extracted honey. If it was bad honey that caused the loss, why did not these bees perish, as they were fed the same kind of honey as we fed ours?

I also noticed an apiary of 50 light colonies at the time I began feeding after returning home. I found on opening the hives that some of them contained one or two pounds of honey, and a few contained from six to eight pounds. Not having the feed or the capital to buy sugar for feed, the bees took their course, to live or die. They dwindled up to the time new honey came in, and half of them were starved. They began to make a gain in breeding, while those with the most honey in the hives pickt up the poorest. If this lot of bees dwindled from any other cause than starvation from the time I began to feed at Greenwood, why did not my bees then dwindle from the time of feeding, etc.? If the great loss was caused by the severe winter, how was it that many a colony wintered all right on the summer stands all unpackt for winter, that had never a top box on so as to store honey that had to crowd out the brood and then store honey in the commencement of the honey harvest? They had no protection in the least, but were on a bench 2½ feet from the ground to give the wind and the cold full play. Each year before last there have been colonies wintered safely in the same way.

Clark Co., Wis.

How Far Will Bees Go for Food, or Gather Profitably?

BY C. P. DADANT.

There has been considerable comment in the bee-papers on the question of how far bees will go in search of honey. I take it that the only thing of importance to the bee-keeper at large on this subject is, "How far will bees go and harvest honey to make a crop pay?" I have written on this subject a number of times, but have perhaps never given a summing up of our experience, which I propose to do now, leaving the reader to draw his own conclusions. And here, let me say that I do not seek to make a great display. I do not claim the best results, or to have done more than others; in a word, I am not trying to "astonish the natives." The results we have obtained are very ordinary, and I feel sure that no one after reading this will feel unable to follow in the same path, for it is a very prosaic one, and not a difficult one. The crops were not astonishing, but they were fair and steady, and in the end have paid for the labor with a good profit.

The first out-apiary that we ever put out was placed in 1872, five miles north of our home-apiary. This apiary, two miles from the Mississippi River, was removed after three years to a location on the edge of the river, and about the same distance from our home-yard, as mentioned above. Then another apiary was establisht in 1876, three miles northeast from the latter, and about two miles from the river. Another one was placed shortly after five miles southwest from our location, also on the river shores, but in a spot where a number of islands and lowlands furnisht some fall pasturage. Later apiaries were successively placed, one at Keokuk, back of the city half a mile, one on the lowlands of the Mississippi River, south of Warsaw, 12 miles from home, another later on the edge of the bluffs in the same vicinity, and still two more such apiaries about three miles apart along those bluffs. Another was also placed two miles south, about four miles from where we live, in a good clover neighborhood. From time to time an apiary was discontinued and another establisht, but we have at no time had less than two apiaries since 1872, a period of 28 years, and for 20 of those 28 years we have had six apiaries at one time in different locations.

As to the number of colonies, we have never permitted it to exceed 120 in any place. The average number was from 80 to 90 in each apiary, and the aim was not to allow any more increase than would make up for winter losses. This has been generally observed, as our methods do not give much incitation to the swarming-impulse.

Our experience has been, all along, that with the same care, the same management, and hives of similar shape and size, the results in one apiary invariably differed from those of another, and nearly always in the same proportion, evidently according to the location, even tho this location was only a short distance—never less than three miles from any other apiary—in all cases but one.

In the locations near the Mississippi, we found invariably a smaller crop than anywhere else. We must remark that the Mississippi at this point is about a mile wide, and in our estimation it acted almost as a barrier to the work of the bees on that side, altho we have evidences that they, in many cases, crost the river for honey. Yet none were found very far on the other side, and the flight of the bees as they emerged from the hives evidenced the fact that they were not prone to go in that direction. Approaching the apiary from the east the roar of the bees could be plainly heard at a quarter of a mile, caused by the foragers passing over our heads, while, if we approacht the apiary from the river shore, no noise was heard till we were at the side of the hives.

The three apiaries that we had along the bluffs south of Warsaw, about three miles apart, were from two to four miles from the river, and separated from it by the richest land in the State except the upper apiary, which was separated from the river by a number of sandy ridges that grew little more than cockleburs and willows, but the rich lowlands were even there only a mile and a half away. The best yielding portion of these bottom-lands is that which is least adapted to cultivation, being too low to drain well, and producing only knot-weeds and Spanish-needles in profusion during the months of July, August and September, when the waters recede and the moisture evaporates sufficiently to enable them to grow and thrive. We have every season invariably harvested larger crops from the apiary which was the nearest to these lowlands—only a quarter of a mile—than from either of the others.

The difference in the quality of the honey, from one apiary to another, has also shown itself plainly, even when they were but three miles apart. Here we must say that the soil being very varied the crops are dissimilar, but during a clover crop, when clover was to be seen everywhere, one might have expected the honey to be similar, yet we have always been unable to sell clover honey from one apiary upon a sample taken from another, and the same may be said of the fall crop.

Not only have the above-mentioned remarks shown that the bees harvested only the local crop of their immediate neighborhood, but we have noticed, in two or three seasons of scarcity, that they were unable to find blossoms located five miles away, and even less. The bees of our home-apiary generally take their bee-line in a northeast direction up the valley on which we live, probably because there are no impediments in their course in that direction. Very few go west in the direction of the river.

In 1880, the worst year of honey famine we have known, a neighbor's bees, located close to the river west of us, were storing honey and whitening their combs on the honey harvested from a couple hundred acres of lowland, while ours, less than two miles off, had not found it. In that same year we removed one entire apiary, as mentioned above, to the heart of the lowlands, below Warsaw, to the overflowed lands which were covered with a luxuriant growth that had sprung up as fast as the high waters of the river receded, while our hills were parcht by drouth. This apiary produced an abundant crop, while apiaries five miles off in a bee-line in the hills had to be fed for winter.

From all this it appears to me that if we want success we must place our bees within a short distance of the crop, and that distance, in my own case, I place at a mile and a half at the outside.

Do not understand me as taking exception to the statements made by some apiarists that bees do go six, eight, and even 10 miles in search of honey, but you can readily see from this experience of 28 consecutive years that one can not consider such distances as safe to be relied upon for a good honey crop. If bees make a practice of flying after food so far would there be any chance of overstocking any location, even if one kept a thousand colonies in one place? An area of say eight miles in every direction makes a pasture of the extent of some 250 square miles, or 160,000 acres, allowing the fractions for the rounding off of the outline. Just think of it! You would have a practically unlimited field, and the kind of crop that might be produced in your vicinity would cut very little figure in your crop since bees fly fast enough to make the time occupied in the trip of little importance.

But that which evidenced to us most emphatically the importance of location close to the pasture was the amount of honey harvested. If I remember rightly, the highest average per colony in one apiary during our very best season, amounted to some 140 pounds per colony, but during that same season an apiary in a poorer location yielded only an average of 50 pounds, and the result was the same every year; the latter location making a less amount of harvest proportionally. The apiaries located at the edge of the bluffs always gave a big crop of fall honey, while those entirely on the bluff, and away from the lowlands, gave the bigger yield of clover crop. Hancock Co., Ill.

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The Premiums offered this week are well worth working for. Look at them.

The Early Bee—What "He" Is, and How to Get "Him."

Written for the last Convention of the California Bee-Keepers' Association,

BY W. A. PRYAL.

YOUR secretary askt me to contribute a paper on some bee-topic for your edification. In an evil hour my egotism prompted me to give him an affirmative answer. Then for days I rackt my brain in an endeavor to hit upon an original subject. This effort on my part came near being my undoing; it addled my brain, and started several screws, all of which will account for the oddity of the remarks which follow. My choice of a subject, I think, is a good one, and I have chosen to lay it before you in the shape of an epistle, rather than in the hackneyed form of an essay, learned and dry.

There is an old saying that "the early bird catches the worm," which I am going to paraphrase by saying, "that the early bee catches the honey." Of course this is not exactly true, as we know that the bee does not catch anything, as he is neither a baseball player, a policeman, nor a terrier, tho he is something of a bird of rare plumage, especially when he is of the five-banded golden kind we read about in the advertisements of queen-breeders who vie with one another in their endeavor to disseminate *Apis Americana.*

But I must be more serious, for I recognize the fact that I have the honor of having these crude, and, I am afraid, uninteresting statements read to a body of gentlemen who are wont to be of a contemplative disposition, for Nature has, particularly here in the Golden State, destined most bee-men to pursue the even tenor of their way in some quiet ravine, or, may be, on the slope of some towering sentry of a mountain-range, where the white hives add a gravelike stillness to the scene by their tombstone appearance. It is a life among the bees amid such suroundings that makes our bee-men to a great extent hermits and lovers of the serious side of life.

Then, I must say that joking is not in my line; and, besides, I should not attempt it. I have heard of a couple of bad instances where the malady has strangely afflicted persons connected with apiarian pursuits, and, if I am not mistaken, the affliction has been a source of annoyance to some of their friends. I believe, gentlemen, that you are aware of how this trouble has taken a deadly hold of some of the brightest minds that adorn the pages of our modern bee-literature. Just look at the havoc it has made with Editor York, of the American Bee Journal. Behold his well-turned puns, and see how they run rampant thru the pages of the "Old Reliable" weekly. Then, Ernest Root's foot-notes in Gleanings in Bee-Culture are editorials indeed, but in them lurk the root of many a cunning joke. In "Stray Straws" a Miller (C. C.) sees a means of grinding out a crop of chaff and substantial food at the same time; and, perhaps, just beside him may be that prince of apicultural humorists, the never-to-be-suppress Rambler, whose fun and frolic is known to you all. I trust for your sake that he is far away from you during this meeting, as otherwise his pen and crayon and tell-tale camera may be getting in their deadly work on some unsuspecting attending honey-producer!

But what has all this to do with the early bee, you may ask? Surely nothing.

Gentlemen, I shall not joke. I will be serious, and proceed to find the early honey that catches the bee—no, I mean the early bee that gathers the honey, and like a good dog that has retrieved your game, lay it before you.

To begin, I will state there are several kinds of early bees. The one I dread the most is the too previous bee. I dare say you have run against this amusing little creature on more than one occasion. He usually makes your acquaintance when you least suspect his presence. He darts from his hive at all seasons, early and late, tho seldom behind time, as he tries to be never late in getting in his work upon you, which is too often done in a decorative sort of way about your optics.

Perhaps you have heard of the spelling-bee. Of course you have, and I shall not waste time in referring to the thing. It cometh in the night, and is too late for notice by me any way. Ditto husking-bee.

My bee is not any of these; neither is he Apis dorsata, Apis Filipino, or even Apis Aurora borealis, whatever the latter may be in the bee-line.

Another early bee, and the one I believe you think I have in mind, is the one that riseth from his soft and downy couch in the wee sma' hours of morning, throws off his nightcap, rubs the cobwebs from his eyes, eats his breakfast of flapjacks and honey, and sallies forth to meet the rising sun and the expanding nectar-laden flowers down by the riverside. This is the industrious little bee that we heard so much of during our childhood years—our parents told us of this little morsel of the insect world when they wisht to impress upon us ways of usefulness and neatness, and teachers sermonized to us about him and the ant—how industrious they were, and what lessons we should learn from them. For the present I shall pass this bee by as not being the one I am after. Your old bee is behind the times for me; mine is trained to a different manner of life. I will state that he is no spring chicken, which may seem strange, since I have held out to you that he is an early bee.

This bee of mine has become hardened by the frosts of winter; he has learned to wear an overcoat, and at the first approach of spring he discards the garment and hies himself to the flower-fields, there to gather in the nectar in a way that makes the bee-man's heart rejoice. No wonder you are already proclaiming him a most wonderful honey-producer. I feel that there is not a bee-keeper in this glorious country of ours but wants this remarkable little worker. My friends, he shall be yours, if you only do as I have done to get him. In finding him I was necessarily under much expense and trouble, but never mind, I have found him, and will charge you nothing for my labor. I shall feel well repaid if you have the same success with him as I have had.

As you must be impatient by this time to know all about this early bee, I shall hurry to tell you all about him.

My bee is one that does not require a warehouse full of provisions to supply his kitchen during the days that are dark, and cold, and dreary—those days when good nitrogenous food is required by man and beast to put an extra coat of fat where it will do the most good to ward off cold. We know that an old animal is more susceptible to cold than a young animal; that the latter does not require so much fat-producing food as the other; neither is he so likely to hug the fire of a cold day, tho he may have to put on a warm overcoat to keep the cold out. Now, the bee I have for wintering is the very youngest bee I can get. He is padded with fat, and walketh like an alderman.

We know that no matter how well filled a hive of bees may be in the fall, it won't have near so many occupants at the approach of winter. To some extent this is a wise provision of Nature, as there are less bees to feed.

Where I have managed bees for so many years I find that it is wise to leave the colonies to their own sweet will after the first week in July. It is after this time that the queen ceases to lay as many eggs as she did during the forepart of the year. The population of the hives is daily diminishing, so that by the beginning of winter, as I have intimated, the colony will be much reduced in number. Now, I do not want my colonies to dwindle down to a hatful of bees. I want good, strong colonies to take thru the winter, even if they will consume a goodly supply of honey. And I do not want a lot of old bees for this purpose, either. The latter are not likely to hold out thru the winter, many of them will die during those balmy winter days we are wont to have in this climate, for bees will venture out every time the sun casts his beaming countenance on a gladsome earth. Too oft are such days but traps to catch the unwary bee; with merry hum he flies forth, but ere he has time to return a fatal change may take place and dash the busy worker to an untimely grave. A young bee is more apt to withstand such hardship, but not so the bee of last year.

To get this early and young bee I proceed in late October, after the colony and the queen have had sufficient rest, to arrange the supers with feeders so as to coax the queen to renewed egg-laying by stimulative feeding. The feeders allow but a limited quantity of liquid to flow, as it is only desirable to build up gently. By this plan I have had a queen fill the brood-chamber with bees by Christmas, after which time I cease to provide further feed. And by this time, too, the hive was well provisioned with stores, so that in some instances it was necessary to remove a few combs of honey, which, at this period of the year, are serviceable in assisting destitute colonies to "keep the wolf from the door," if I may be allowed to use the expression.

After the queen has been the means of producing such a large stock of young bees at a season when nature intended that she should take a rest from her maternal duties, it is well to remove her to a hive where she will not be called upon to do much egg-laying until spring is well under way. In her place introduce a young queen of known prolificness that has not yet been called upon to propagate her species out of season. Your hive is now ready to begin its spring campaign in a most wonderful way, as you will find out if you give this method a trial. The colony will be strong and vigorous, and by the middle of February, if not before, it will be in a condition to swarm, but this is not yet desired. If it is too strong, and there is evidences of its swarming, you might take some of the combs with adhering bees and give them to a weak colony, say the one you placed the mother of your "early bees" with.

I do not know of a better way of having populous colonies at the earliest date possible than by the plan just outlined. It gives you strong colonies for winter, and as the inmates, with few exceptions, are young bees, they live well into spring. For the apiarist who desires to build up by division this is a capital plan, at least I have found it so. He is given the material at the very opening of spring, and by judicious manipulation he may increase two-fold and have a good working-force when the main honey crop arrives.

Now, my friends, I have told you what I know about the early bee, tho it took me some time to do so—perhaps I should have taken a bee-line and have gotten at my object sooner. I hope my subject and its treatment has not disappointed you. You may have expected something better. I feel confident that after you have given the method a thoro trial you will exclaim, as I did after discovering it, "Eureka!" Pray do not let me hear that any of you were "onto" this trick long ago, as that would be a sad disappointment to me, and blast my hopes of being considered one of the great lights in the galaxy of apicultural giants. My place along with Langstroth, Huber, Dzierzon and other big guns would be "knockt into a cockt hat."

Thanking you, my friends, for allowing me to tire you with the foregoing remarks, wise and otherwise, and asking your pardon for having repeatedly referred to your little pets as belonging to the masculine gender, when, I believe, most of you hold that I should have called the worker-bee an "it" or a "she;" and promising not to disturb your equanimity further during this meeting, I beg to subscribe myself— YOURS FOR THE EARLY BEE.

Alameda Co., Calif.

Essential Points in Rearing Good Queens.

BY J. P. MOORE.

To rear good queens, equal to those reared under the swarming-impulse, three essential points must be observed, viz.:

1st. They must be reared from small larvæ. Those 12 to 24 hours old are just right for the purpose. If bees are given larvæ of all ages from which to rear queens, some of the queens will be almost worthless. Doolittle puts the limit at 36 hours, but, to be on the safe side, I would advise the use of larvæ not more than 24 hours old; for no queen-breeder will say that the former are better than the latter.

2d. The queen-cells must be built in full colonies well supplied with young bees. The young bees do the nursing; therefore, it is necessary to have plenty of young bees to feed the embryo queens a large quantity of the royal food, that strong, well-developt queens may be produced.

3d. They must be either reared during a good honey-flow, or in the absence of this, liberal feeding must be practiced.

This is highly important, and is the only way in which we can rear good queens after the honey season is over.

During my 20 years' experience in queen-rearing I have tried every method which has been brought to public notice, and I consider Doolittle's method far superior to all others. This method combines the essential points mentioned above in the highest degree. By it we are enabled to have queen-cells built in the upper story of any colony devoted to the production of extracted honey, having a queen-excluding honey-board between the upper story and brood-chamber. Remove two frames from the upper story of such a colony, and in their place put two frames of unsealed brood. The object in doing this is to draw a large force of nurse-bees above to attend to the queen-cells. Two days later remove another frame from the upper story, spread the two frames of brood apart, and place a prepared frame between them. By "prepared frame" is meant a frame containing a number of queen-cell cups, each supplied with a little royal jelly and a larva about one day old. About 15 cells are as many as a colony should be allowed to build at one time.

To describe the manner of making the cell-cups and grafting them would make this essay too long for this occasion ; therefore, I must refer you to Doolittle's "Scientific Queen-Rearing" for this information.

In order to improve our stock for honey-gathering we must keep a record each season of our best colonies, and rear queens from the stock giving the best results. Have them crost as far as possible with drones not akin, of other good stock. This is accomplisht by stocking our apiary with drones not related to our breeding-queens. This is very important, and must not be overlookt if we desire to improve our stock.—Pendletonian (Ky.).

[Doolittle's "Scientific Queen-Rearing," referred to by Mr. Moore, is a cloth-bound book which we send postpaid for $1.00 ; or will club it with the American Bee Journal for one year—both for $1.60, provided all arrearages on subscriptions are paid.—EDITOR.]

Dr C.C. MILLER

QUESTIONS AND ANSWERS.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Management with Little Attention.

We are going to move some of our bees about 25 miles from here, and can not visit them oftener than once every week or 10 days. We thought of putting on an extracting-super, and a comb-honey super on that. Then cage the queen and put on entrance-guards. Is this as good a plan as we can adopt? MISSOURI.

ANSWER.—Try some of them this way : Give abundant room for the queen to lay, abundance of surplus room, and abundant ventilation by having full entrance to each story, and omit caging and entrance-guard.

◆

Feeder Flows Too Fast.

I have two Boardman feeders. I use three parts water and four parts sugar (best granulated) by measure. The syrup flows out too fast even for a strong colony of bees to take it. What is the cause and how is it managed? IOWA.

ANSWER.—Without seeing your feeders in place it is hard to say just what is the trouble. With a Boardman feeder there ought to be no trouble about the syrup flowing out too fast, even if it stood a year without any bees to take it. It is just possible that the glass jar is not down in its proper place in its receptacle. It may be that the hive is not level, for if too much out of level the syrup would flow till the can is emptied, even with no bees to take it.

◆

Bees Under a Bathroom Floor.

I was taken with the bee-fever several months ago, and being ignorant on the subject of bees, I purchast "Langstroth on the Honey-Bee," which I read with much delight. What I want to know is, Why do the bees continue using a home under a floor, as shown in the enclosed clipping, when there is very much noise created above them? The books and bee-papers tell me that to make the bees go down from the supers when they are storing, beat a stick on top of the hive. Which is it that drives them down, the noise or the smoke? If it is the noise, then why is not this colony always disturbed? MARYLAND.

ANSWER.—The clipping tells about a colony of bees that were lodged under the floor of Mr. Godman's bathroom, entering thru a hole in the wall, the bees furnishing a large amount of honey. The clipping continues

"The 'robbing' took place in the fall. A small amount was left for the bees to subsist upon. Mr. Godman thought that it would be better to transfer the bees to a hive and take them out of the house. There were some disadvantages connected with their presence in the bathroom now, especially since the hole had been bored in the floor to get at them. The children could enter the room and take the bees up from their place by the double handful, and smooth them along their laps with their hands, but the workers of the colony were opposed to certain members of the family, and stung them whenever they got a chance. That was why Mr. Godman desired to put them in a hive in the yard.

"The hive was prepared, and an effort was made to induce the bees to enter it, but the effort was not a success. It brought about a schism in the colony, however, and nearly all the bees went away. During the blizzard last February the colony that remained beneath the bathroom perisht."

Bee-keepers will be somewhat skeptical as to accepting all this as entirely reliable. Replying to your question, the smoke alone, or the noise and jarring alone, is enough to drive bees out of a hive. The jarring probably has more to do with it than the noise. But a little bit of smoke, or a little bit of jarring, would not dislodge them. The jarring must be heavy and continuous. You might walk all day over the top of a hive, and it would irritate the bees, but would not drive them out of the hive.

◆

Old Queen with the First Swarm.

When a colony of bees casts the first swarm, is it the old queen or the young one that goes out? Some tell me it is the old one, some say the new. CALIFORNIA.

ANSWER.—The old queen goes with the prime swarm, and young queens with after-swarms.

◆

Queen-Excluders from Foul-Broody Colonies.

In reply to an inquirer I said such excluders should be boiled before being used on healthy colonies. Wm. McEvoy is much better authority upon foul brood than I, and he says in the Canadian Bee Journal :

"Queen-excluders that have been used on foul-broody colonies are perfectly safe to use on any hive of bees without any disinfecting. The larvæ to become diseased must be fed in a corrupt cell or with diseased honey, and as queen-excluders have nothing on them for the bees to feed to the brood they can not disease any colony of bees."

◆

Perhaps a Peculiarity of the Queen.

1. On April 24 I changed an outside empty frame to the center of the brood-nest of a colony, placing it between two frames of brood. May 1, I found upon examination that many of the cells contained two eggs, laid sometimes on one side and sometimes on the bottom of the cell ; the colony was of fair strength and the brood apparently in good shape. The queen was two years old, and possibly three. I also found some cells uncapt containing larvæ in the pupa state. These conditions were peculiar to this one comb only. I saw no others in a similar condition in the hive, and none in the apiary. Can you tell me the cause? MICHIGAN.

ANSWER.—No, I don't know enough to give the cause. I have had two cases a little on the same line. An imported queen laid eggs on one side of the cell for a few days, and afterward laid normally. It is not impossible that a queen may have some temporary derangement that makes her do irregular work.

◆

Transferring—Bees in a Brick House.

1. I have one colony in a box-hive from which I wish as much increase as possible. I also wish to transfer into a movable-frame hive. When should I transfer them?

2. I have a colony of bees in a brick house. Their entrance is under the window-sill on the second floor between the two walls. Would it pay to try to get them into a hive? If so, how could I get them, and when would be the best time? Would they swarm if left alone? SUBSCRIBER.

ANSWERS.—Wait till they swarm, and hive the swarm in a new place, leaving the old hive on the old stand. After they swarm the second time (if they do swarm again), set the second swarm in a new place, and then transfer what is left in the old hive. If they do not swarm again, transfer about two weeks after the prime swarm issues. But it may be better for you to be satisfied with only one swarm, setting the swarm on the old stand, the old colony beside it. A week later move the old hive to a new place, and 21 days after swarming transfer.

2. It depends on the value of the wall as compared with the value of the bees. The chances are in favor of their swarming, especially if strong and the season good. If you decide to get them out, you will have to take down enough of the wall to expose the combs, then cut them out, and take bees and all.

Did the Onion Honey Kill Them?

1. Is onion honey injurious to bees?
2. Does onion honey become strong as it becomes old?
3. Is there any opium in onion honey?
4. If not, what killed the bees that had onion honey, as there was no disease that I could find?

The point I wish to know is, did the honey kill them, or did some man kill them? They were threatened by a very bad man. My bees never did any harm to any one. They were a very gentle strain of Italians, 150 feet from the street, in good hives with movable-frames. OHIO.

ANSWERS.—1. I did not suppose it was, from the fact that I have read of its being gathered, but never heard of any harm from it.

2. Instead of the honey becoming stronger, I have read that it loses some of its rank onion taste with age, becoming milder.

3. I think not.

4. I am at a loss to say. Possibly some honey-dew was present. Possibly the bees may have had access to something poisonous.

Questions on Various "Styles" of Bees.

As I have what is called the golden Italian bees, I was thinking of introducing new blood, so I ask these questions:

1. Are the golden and the 5-banded the same?
2. Are the leather-colored and the 3-banded the same?
3. Are the Cyprians in any way superior to the Italians?
4. Are the Cyprians in any way related to the golden Italians?
5. Would you advise introducing a Cyprian queen in a yard of Italian bees?
6. Would the cross be any better than new blood of the Italian? WISCONSIN.

ANSWER.—1. I believe they are the same.

2. Not necessarily so. What are considered as pure Italians coming from Italy have 3 bands, but all are not leather-colored; some are lighter.

3. They have the reputation of excelling the Italians as stingers. Whether they have any extra vigor in working to correspond, I do not know.

4. No, no more than they are to all Italians, which they so much resemble in appearance.

5. I think I should prefer Italian, but others might think differently.

6. That question can hardly be answered by a straight yes or no. You might strike a combination that would give better results than some Italians, and you might strike something worse. Taken in general, you may get better results from the Italian.

Wants No "Shortening" in Pie.

When Editor York began to spell it *thru* instead of *through*, several cold chills ran up and down my spinal column. Since then I have gotten reconciled to the change, and am inclined to the belief that I am beginning to like it.

But I notice with alarm that he quotes (I thought) approvingly what somebody says about dropping *all* of the silent letters in the English language. I want you to join me in protesting against the dropping out of the *e* in *pie*. How is any one to know whether printer's pi or apple-pie is under consideration? The change is too suggestive of vanishing visions of those peach and pumpkin and mince and custard things which tickled the palates and destroyed the digestion of so many in Yankeeland and elsewhere. I do not eat pie any more, but in behalf of a great number of prospective dyspeptics who persist in the use of these pleasing abominations, I hope you will join me in the attempt to persuade Mr. York not to eliminate the *e* from *pie*.

EDWIN BEVINS.

ANSWER.—Decidedly yes, Mr. Bevins, we must stand up for our rights, and draw the line at pi. I'd stand a good deal from Editor York, but I'm not ready to submit to have cold lead crammed down my throat in place of that toothsome combination between crusts ending with an e.

Eggs of a Virgin Queen.

Are the eggs from a virgin queen fertile, and will they hatch? NEW YORK.

ANSWER.—The eggs of a virgin queen are not fertilized, but they will hatch, producing only drones. They are exactly the same as the eggs that a good laying queen lays in drone-cells.

York's Honey Calendar for 1900 is a 16-page pamphlet especially gotten up to create a demand for honey among should-be consumers. The forepart was written by Dr. C. C. Miller, and is devoted to general information concerning honey. The latter part consists of recipes for use in cooking and as a medicine. It will be found to be a very effective helper in working up a home market for honey. We furnish them, postpaid, at these prices: A sample free; 25 copies for 30 cents; 50 for 50 cents; 100 for 90 cents; 250 for $2.00; 500 for $3.50. For 25 cents extra we will print your name and address on the front page, when ordering 100 or more copies at these prices.

◆

Belgian Hare Breeding is the title of a pamphlet just publisht, containing 10 chapters on "Breeding the Belgian Hare." Price, 25 cents, postpaid. It covers the subjects of Breeding, Feeding, Houses and Hutches, Diseases, Methods of Serving for the Table, etc. It is a practical and helpful treatise for the amateur breeder. (See Prof. Cook's article on page 292.) For sale at the office of the American Bee Journal. For $1.10 we will send the Bee Journal for a year and the 32-page pamphlet on "Belgian Hare Breeding."

◆

"The Hum of the Bees in the Apple-Tree Bloom" is the name of the new bee-keeper's song—words by Hon. Eugene Secor and music by Dr. C. C. Miller. This is thought by some to be the best bee-song yet written by Mr. Secor and Dr. Miller. It is, indeed, a "hummer." We can furnish a single copy of it postpaid, for 10 cents, or 3 copies for 25 cents. Or, we will mail a half-dozen copies of it for sending us *one new* yearly subscription to the American Bee Journal at $1.00.

◆

Dr. Miller's Honey-Queens are offered as premiums, on another page, for sending us new subscribers to the American Bee Journal. The offer is limited to our present regular subscribers, and the queens are to be mailed in rotation, beginning about June 1st, so first come first served. Look up a new subscriber, send in his name with $1.00, and we will enter your order for a Dr. Miller Honey-Queen.

◆

Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Upon receipt of $1.00 for your Bee Journal subscription *a full year in advance*, we will mail you a Wood Binder free—if you will mention it.

◆

The American Fruit and Vegetable Journal is just what its name indicates. Tells all about growing fruits and vegetables. It is a fine monthly, at 50 cents a year. We can mail you a free sample copy of it, if you ask for it. We club it with the American Bee Journal—both papers one year for $1.10.

◆

Queenie Jeanette is the title of a pretty song in sheet music size, written by J. C. Wallenmeyer, a musical bee-keeper. The regular price is 40 cents, but to close out the copies we have left, we will mail them at 20 cents each, as long as they last. Better order at once, if you want a copy of this song.

AMERICAN BEE JOURNAL
ESTABLISHT IN 1861
OLDEST BEE-PAPER IN AMERICA
DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS

PUBLISHT WEEKLY BY
GEORGE W. YORK & COMPANY,
118 Michigan Street, Chicago, Ill.

[Entered at the Post-Office at Chicago as Second-Class Mail-Matter.]

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IMPORTANT NOTICES:

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Subscription Receipts.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows you that the money has been received and duly credited.

Advertising Rates will be given upon application.

VOL. 40. MAY 24, 1900. NO. 21.

EDITORIAL COMMENTS

NOTE—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England: — Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

Shipping Bee-Supplies Promptly.—It seems from statements made by several of the larger bee-supply manufacturers, that they are not having much trouble so far this year about filling orders promptly. Doubtless there is scarcely a dealer who would from choice delay filling orders. We believe that almost invariably the present-day bee-supply dealers are prompt and reliable.

It doesn't take long to find out that delays and anything but up-to-date methods must inevitably bring on failures in these days. Buyers are fast learning whom they can trust, and who will serve them best. It is well that it is so. Honorable and conscientious dealing will always prove to be the best in the long run. Careless and dishonest methods will soon bring on heart-failure and quick dissolution to any business, as properly should be the case.

Bran for Bees.—Mr. A. I. Root, in Gleanings in Bee-Culture, tells in the following how the bees "go for" bran as a substitute for pollen :

"Our neighbor across the way, a grain-dealer, got in a carload of bran in bulk; and on this beautiful 16th day of April they began shoveling it up to store it in their warehouse. But the bees from our apiary just across the way, in consequence of the cold March and April so far, were lacking in pollen, and they pitcht into the bran with such vim that the men who were shoveling beat a retreat. Why, it made one think of a leaky carload of honey, only the bees seemed to be very happy and civil in their rejoicing over their big find of pollen. I got one of our biggest wheelbarrows, loaded it up with bran, and wheeled it out into the apiary as a 'counter-irritant;' I think that is what the doctors call it, don't they? Well, just now (about three in the afternoon) it makes me feel like old times to hear the bees humming and rejoicing over that big wheelbarrow full of bran. I tipt it up edgewise so the coarser particles would run down over the side, and that seems to be just the thing to suit them."

Comparative Weight of Sections.—Altho the editor of Gleanings in Bee-Culture is by no means a figure-head, he seems to have quite a head for figures, and gives a bewildering array of figures with regard to the weight of sections of different sizes. In one lot of honey the average weight of 4¼x4¼x1⅞ bee-way sections was 14.94 ounces; of 4¼x4¼x1½ plain, 13.83 ounces. A 4¼ plain by 1⅝ holds a plump pound. The 4x5 is supposed to run more nearly a pound than any section on the market. A whole lot of figures is given, showing the cubical contents of the sections of different sizes, but the actual amount of honey is by no means always in the same proportion.

Granulated Honey is having much said in its favor nowadays. G. M. Doolittle says in the American Bee-Keeper:

"If the bee-keepers of the land had tried as hard to educate consumers regarding the merits of granulated honey as they did to put only liquid honey before the public, the call for liquid honey would have been changed to that of granulated honey long ago. My customers, for the past five years, have all called for the granulated article, nearly all of them preferring to use it that way, while the convenience of carrying it home in a paper sack, or a box lined with paper, with no leaking or daubing of things with liquid honey, adds to the popularity of honey in its granulated form."

Management in the Extracting-Season.—In the discussion of this topic at the Toronto convention (reported in the Canadian Bee Journal), the point was made that in locations where the weather turned cool at the close of the honey season it was better to extract before the bees began to shrink away from the upper combs, for this would allow the honey to become thin. Care should be taken to keep white clover and linden honey separate, especially if the honey is to be shipt to England. Bees will go to work more promptly upon combs that have just been extracted than they will on dry combs. Where there is danger of foul brood in some colonies, it is safer to give back to each colony its own combs after they are extracted, but it takes more time. Some did not find it necessary to have excluders under extracting-supers on establisht colonies.

Young Queens to Prevent Swarming.—It is a common belief that a colony with a queen of the current year's rearing will not swarm. The belief has been held for many years, and for a long time was left undisputed. Then when Italians came upon the field, it was said that the rule did not always hold true with them, but was still valid with blacks. Possibly there is not so much difference as supposed between the two kinds of bees, the difference in results being rather owing to treatment than to difference in bees. As a matter of fact, when other conditions are all favorable for swarming, the introduction of a young queen will not prevent swarming, even if she has been laying only a day or two. But when a young queen is not introduced, but reared in the hive, then it may be expected to prevent swarming. Gravenhorst gave this as reliable, and said he could not explain why there should be the difference between a queen introduced and one reared in the hive. In the American Bee-Keeper G. M. Doolittle gives what is probably the true reason. When a queen is reared in the hive there is a break in the laying that throws the colony out of its normal condition as to eggs and brood, resulting in no swarming. But he says this break, to be effective, must come not earlier than 10 to 15 days before the main honey harvest begins. And with this break of 10 to 20 days duration, even an old queen will not swarm.

Do Not Keep Virgin Queens Away from the Bees.—G. M. Doolittle thinks that where the right temperature is maintained it may do to keep queen-cells away from bees, but he is quite sure it is bad to keep virgin queens at any time without the immediate touch of worker-bees. He says in Gleanings in Bee-Culture:

"About 15 years ago I had a mania for introducing old virgin queens to nuclei, so that I might be able to send off queens to the trade much faster than by the cell plan, giving one of these old virgins to a nucleus at the same time that I took a laying queen away. Then I also sent virgin queens to other parties to have them mated and returned to me, and out of scores tried for the different purposes I never had one *single* queen thus treated live two years, while very many of my other queens, which were in immediate touch with the bees at all times, live to be four and five years old. At that time I had 'growls' from my customers regarding the short lives of some of the queens purchast of me; but since I adopted the motto of 'No queens but what the bees cared for *all* the time,' I have had no complaints of inferior queens in any respect."

Improving the Stock of Bees is a matter that seems to have more attention given to it lately than ever before. J. B. Hall thinks it worth while to take such pains in selecting and breeding as to make his queens cost a good deal. His plan is given in the Canadian Bee Journal as follows:

"I have a record slate on every hive; I have the age of the queen, when she was clipt, and when I saw her last. I use the letters A, B, C—C is killed at once; B is killed when I can do so profitably; A we don't breed from; A 1, we do sometimes; A I X we breed from; A I X X we mark to rear queens from the next year. I could not rear them to sell that way unless I got 2 or 3 dollars each for them."

Do Bee-Keepers Want Adulteration to Stop?—Commenting upon the 12 carloads of adulterated honey turned out in 60 days, that was reported in Gleanings in Bee-Culture, the American Bee-Keeper says:

"The injustice to honest producers resulting from such wholesale adulteration must be apparent to all, as it must also be that our plain duty is to *stop it*. It is not as if we had no representative organization to deal with such problems; in that case the matter would indeed be serious. We may congratulate ourselves on having an efficient association at this time; and its board and executive staff being composed of men eminently qualified to guard our interests with vigilance and tact, should be a source of satisfaction and confidence. The case rests with the producers themselves. Shall we exterminate the offenders and reap the full rewards of our labor, or shall we indifferently permit the very foundation of our industry to be stealthily withdrawn by those engaged in the illegitimate practice of adulteration?"

Bingham's Expansive Hive.—T. F. Bingham, of smoker fame, describes in Gleanings in Bee-Culture the hive he has been using for many years, as follows:

"This is composed of 7 tight-end frames clampt or lasht together with a wire link or loop which is tightened by a stick which spreads the link, thereby shortening it so as to hold firmly the movable sides against the frames, rendering the whole practically a box which rests on a loose bottom-board having on either of its two edges a square strip ⅞ inch by 24. These strips leave an entrance the length of the sides of the hive.' Above this hive is a clamp (or super) holding 18 one-pound sections.

"That is all there is of the hive. If not large enough, any number of just such hives and clamps of sections may be set under or over it to suit conditions."

The Weekly Budget

C. B. Bankston, of Rockdale, Tex., judging from several reports we have received, is accepting money for queens which he does not send. When written to afterwards it seems he makes no reply. So far as we have noticed he is not advertising in any of the bee-papers this year, but has advertised in other years. We give this word of caution so that our readers may be careful not to send him any orders unless they know that he is in business and doing all right.

* * * * *

THE BOY WITH THE SPADE.

No weight of ages bows him down,
That barefoot boy with fingers brown.
There's nothing empty in his face,
No burdens of the human race
Are on his back, nor is he dead
To joy or sorrow, hope or dread,
For he can grieve, and he can hope,
Can shrink with all his soul from soap.

No brother to the ox is he,
He's second cousin to the bee,
He loosens and lets down his jaw—
And brings it up—his gum to "chaw."
There's naught but sweat upon his brow,
'Tis slanted somewhat forward now.
His eyes are bright with eager light,
He's working with an appetite.

Ah, no! That boy is not afraid
To wield with all his strength his spade!
Nor has he any spite at fate—
He's digging angleworms for bait!
—Chicago Tribune.

* * * * *

Don't Crowd Your Advertising Space.—There should be plenty of white space in an advertisement, and that white space should be well distributed and clean looking. Don't let your advertisement look choked for breathing-room. Ventilation in an advertisement suggests healthfulness and prosperity, a liberal-mindedness that it will be a pleasure to meet in a business way. An advertisement which looks as tho its owner was afraid some little quarter of an inch of space would be paid for without being utilized puts the prospective customer in an unconscious attitude of dealing with a close-fisted merchant.—Profitable Advertising.

BEEDOM BOILED DOWN

A Furnace in a Bee-Cellar is all right, according to J. B. Hall in the Canadian Bee Journal, if there is a brick wall between the furnace and the room containing the bees.

"**A Solar Wax-Extractor With Bottom Heat** is no new thing in California. E. H. Schaeffle has devised and uses an extractor that uses solar heat on the bottom thru reflection."—J. H. Martin, in Gleanings in Bee-Culture.

To Introduce a Valuable Queen, W. B. Ranson gives the following in Gleanings in Bee-Culture:

"Take a large Benton cage and provision it, and put the queen in it all alone. Take out the queen from the colony to be requeened, and at the same time pick off from the combs 12 or 15 young bees just hatcht; put them in a cage; wait a moment for these babies to crawl over the queen and scent her with their damp feet and wings. Now pick off another lot, a little older, and put them in, and in another minute pick off a dozen still older, say those old enough to shed their veils. Now close up the hive for an hour. Take the cage with the queen and 40 or 50 bees, and notice them carefully; and if the older bees should attack her, smoke them; but they would hardly do that. In a few minutes you will find the oldest bees caressing the queen, having accepted her in the cage. Now give them to the colony to eat out the candy and liberate the queen; and if the work was properly done, the queen is perfectly safe. It seems that the damp feet and wings of the very young bees in crawling over the queen cause the older bees to accept her in the cage; and once they commence to caress her in the cage she is safe. I introduce virgin queens in this way without difficulty."

Bees on Shares in California.—J. H. Martin says in Gleanings in Bee-Culture:

"So far as my observation and experience go in this State, the owner of bees does not allow the party of the second part to have any of the increase. The plan usually followed, and one that seems to be the most satisfactory to all concerned, is for the owner to furnish the bees, hives for increase, and receptacles for his share of the honey. The party of the second part has half of the honey and wax; provides receptacles for his portion of the honey, and leaves enough honey in the hives at the close of the season for the sustenance of the bees. As both parties are after the most profit possible in the amount of honey, it is for the interest of both to prevent swarming as far as possible; and where the extractor is used the swarms are few. The equal division of the products is easily accomplisht, and there is seldom disagreement."

The Four Classes of Soiled Sections.—Dr. Miller has already spoken of the confusion that seems to exist over the question of travel-stained, soiled, yellow, greasy or water-soakt sections. All of these terms have often been confounded for one and the same thing. There are really 4 classes of discolored sections, each due to a distinct and separate cause. First, there is what is called the real travel-stained section. As its name indicates, the cappings are soiled because the bees have gone over the surfaces of the cappings with their dirty feet.

Then there is another lot that are stained because the boxes are capt over in the vicinity of old comb, dirt or propolis. If the faces of such sections are examined carefully it will be found that the stain or discoloration goes *clear thru*. These discolorations are due to the fact that the bees take up pieces of old black wax, propolis, or anything that will answer as a substitute or filler for pure wax. I have seen the cappings of some sections of this sort filled with bits of old rope, lint from newspapers, small hard chunks of propolis, fine slivers of wood—anything and everything that is right handy. Sections of this class often look like those of the first class, hence the frequent confusion.

In the third class are those with soiled cappings, due to pollen dust or possibly a thin layer of propolis stain. All such may be bleacht white, but the other two are hopelessly beyond remedy. All white honey with yellow cappings is apt to be in the third class.

The fourth and last class takes in all those that are called "greasy" or "water-soakt," having cappings that lie on the honey. The covering to each cell is more or less transparent, or water-soakt—the transparent part being half-moon shaped, or in the form of a ring encircling a white nucleus center that is not greasy or transparent. The general surface of such sections is mottled with little transparent half-moons or circles over many of the cells.

If the reader will look over the unsold odds and ends of the grocer's he will be able to find samples of all these classes, and it is a good time of the year to find them, as they are the last to sell.—Editorial in Gleanings in Bee-Culture.

To Get Candied Honey Out of Combs, Mrs. J. M. McLean gives the following in Gleanings in Bee-Culture:

"I uncapt some, and then filling a large tub with cold water, in which I put about a quart of vinegar, I filled it with combs, put a weight on to hold them down, and left them 24 hours, when they came out as clean as ever—no honey, no pollen. They were a little *sticky*, but I hung them in some empty hives, and the bees soon cleaned them up. I used the one tub of water for all the combs. I cleaned about 150, and then put the honey and water into the vinegar-barrel."

Management of Swarms to Prevent Increase.—QUESTION: What is the best method of handling swarms so as not to increase the number of colonies?

Mr. Hall—In 1883 we took 25,000 pounds of comb honey on that principle. We had more swarms that year than ever we had. In one apiary we had 80 colonies, and we increast to 84; in another, 120 colonies and increast to 128. We had an abundance of swarms; we hived every swarm on half combs and half foundation, full sheets of foundation, (4 sheets to the pound,) placing the old colonies alongside the new swarms; 6 or 7 days after we shook all the young bees that had hatcht in that time into or in front of the swarm, making it very strong, and took the brood away and hived a swarm on it. There were no eggs and little or no uncapt larvæ. Every swarm of bees we put upon those combs staid and went right to work, we carried that out thruout the season. We started with 200 colonies of bees and we finisht with 212, and we took 25,000 pounds of honey.—Canadian Bee Journal.

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The Honey-Bee

Revised by Dadant—1899 Edition.

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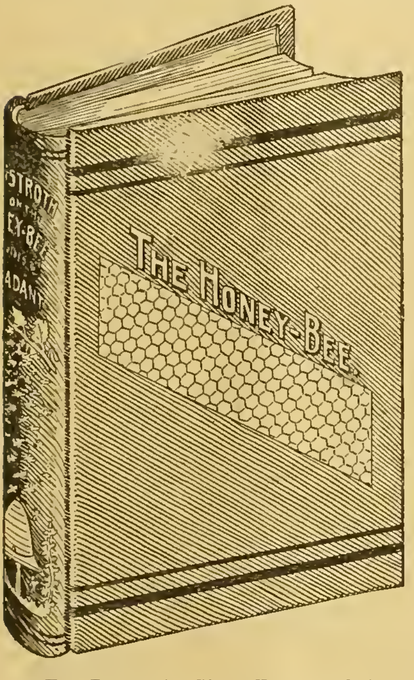

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GEORGE W. YORK & CO.
118 Michigan St., CHICAGO, ILL.

GENERAL ITEMS

Bees Doing Splendidly.

The bees came thru in fine shape last winter, and as we are now in the midst of fruit-bloom they are doing splendidly. After selling some I still have 35 colonies—about as many as a man past 80 years of age can take care of. J. KENOYER.

Whitman Co., Wash., May 7.

Blocking the Brood-Chamber with Honey.

I was compelled to transfer a colony in an old 12-frame no-spacing hive this spring to an up-to-date hive, and this was done five weeks after they swarmed (on account of rainy weather I could do it no sooner), and to my surprise every cell was jam full of honey and sealed, and the bees were constructing one-sided combs on each side of the hive, which were partly filled with honey. There were a great many bees in this hive. JAY S. BROWN.

Bradford Co., Fla., May 5.

Bees in Fine Condition.

My few colonies are in fine condition, the only one I lost being queenless. I found it was queenless when I returned from St. Louis last fall, but it was too late to help it then. I had introduced a queen from an Eastern breeder when I went away in July, and it seems she didn't suit them. MRS. N. L. STOW.

Cook Co., Ill., May 11.

Bees Doing Well.

My bees are all doing well. One colony is at work in the second story. I lost one colony this spring, but all the rest wintered well, and are in fine condition.

I have very many visitors to my yard from the city and county, and have been working to form a local bee-keepers' association. The bees are my best friends, and all my spare time is spent among them. DANA H. GRAHAM.

Lancaster Co., Pa.

Early Honey-Storing, Etc.

Bees are just booming in this locality. I have several colonies that have stored from 20 to 30 pounds each of willow honey in supers. At one of my out-apiaries a week ago to-day I noticed two colonies from which there seemed to be scarcely any bees flying, and I thought they must be weak, but on examination I found that their combs were all full of bees and honey, and they were loafing and building queen-cells. I gave one of them another story of empty combs, and the other a shallow extracting-super with foundation. When I went back to-day I found that the one with the shallow extracting-super had the foundation all drawn out, and that both of them were full of eggs and honey. I never before had bees store any honey in the supers in

Sharples Cream Separators: Profitable Dairying

DITTMER'S FOUNDATION Wholesale and Retail

This foundation is made by an absolutely non-dipping process, thereby producing a perfectly clear and pliable foundation that retains the odor and color of beeswax, and is free from dirt.

Working wax into foundation for cash, a specialty. Write for samples and prices.

A full line of Supplies at the very lowest prices, and in any quantity. Best quality and prompt shipment. Send for large, illustrated catalog.

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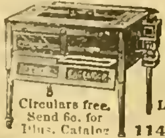

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18A5t MINERAL POINT, Iowa Co., WIS.

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Thin Flat-Bottom Foundation
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a comfortable home for the bees in summer and winter. We also carry a complete line of other SUPPLIES.
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—U. S. A.—

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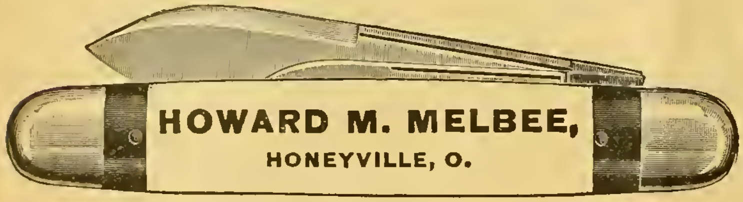
The Novelty Pocket-Knife.

Your Name and Address on one side—Three Bees on the other side.



[This Cut is the Full Size of the Knife.]

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

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How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

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April. I also found something else that I never saw before, and would like to know if any one can tell the cause of it:

On opening one hive I saw hundreds of slick, shiny, young bees that could not fly, on top of the frames, as I have seen them dragging out of the hive in the spring when taken out of the cellar. On examination I found that they were queenless, with nothing but a little drone-brood in the hive. Oh, yes, I know Mr. Doolittle says it does not pay to re-queen, as nine times out of ten the queen will be superseded before she becomes unprofitable. That must be another case of location, as in this part of the country nine times out of ten she will *not*. H. J. Chapman.

Dallas Co., Iowa, May 2.

Bad Weather for Bees.

The weather is bad. The temperature was at 74 degrees for a few hours on May 9; inside of an hour it fell 23 degrees, and the next morning the ground froze hard. This was the first warm spell in May. This weather has kept colonies reduced, as the bees would go out for pollen and never return. Henry Alley.

Essex Co., Mass., May 11.

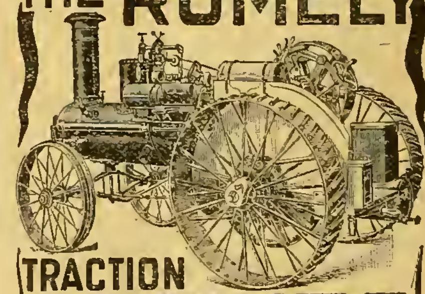
Common Parsnip.

I send a plant which, in some years, furnishes quite a little honey. Some of my neighbors claim the plant is poisonous. What is its name? Is it poisonous to animal life?

Essex Co., N. J., K. Mor.

Prof. C. L. Walton, of the Lake View High School, Chicago, reports as follows on the above:

The plant in question is the common parsnip, Pastinaca sativa, and belongs to the poisonous parsley family. To this family belong the very poisonous cowbane, fool's parsley, poison hemlock, etc. The beautiful harbinger-of-spring and the aromatic rooted sweet



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From 8 to 20 H. P.

They all excel as quick, easy steamers, require little fuel, remarkable strength, simplicity and durability. All boilers made of 60,000 lbs tensile strength steel plate Fire boxes surrounded with water. Make also Threshers, Horse Powers and Saw Mills. All fully described in our illustrated catalogue. Ask for it. Mailed free.

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cicely are also members of this same family.

I believe the common parsnip is not considered poisonous to any considerable extent, but rather quite harmless. The natural instinct of animals is usually sufficient to prevent disastrous results from eating poisonous weeds too freely.

Bees may visit a very poisonous plant with impunity, and bear away the precious nectar, while the same quantity of the sap of the plant would prove highly injurious.

Western Honey Crop for 1900.

The honey crop of Utah will not be up to the average. There will not be more than five counties that will ship out honey this year. About two-thirds of an average crop will be the limit. Many bees died last year, and the re-

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KEROSENE SPRAYERS

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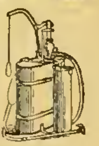

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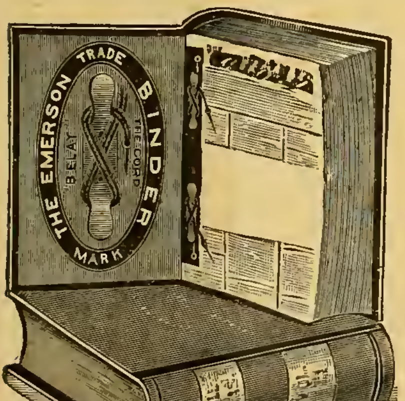
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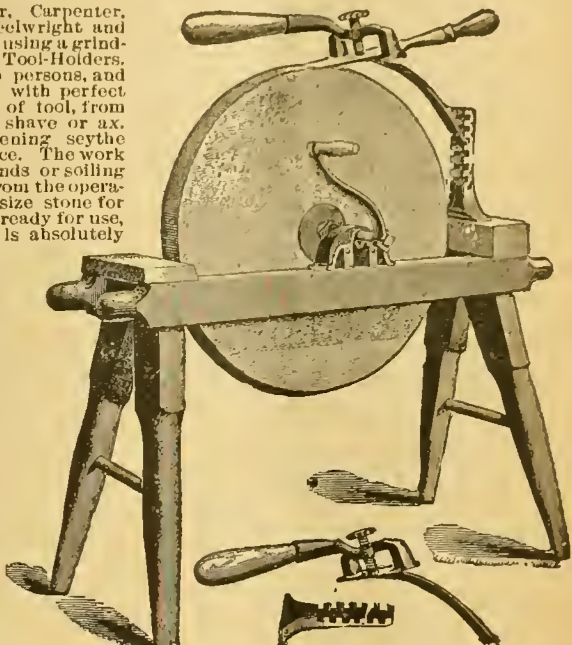

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DIRECTIONS.—The Tool is fastened securely in the Holder by a set-screw and can be ground to any desired bevel by inserting the arm of the Holder into a higher or lower notch of the standard. While turning the crank with the right hand, the left rests on an steadies the Holder; the Tool is moved to the right or left across the stone, or examined while grinding, as readily and in the same way as if held in the hands.

For grinding **Round-Edge Tools,** the holes in the standard are used instead of the notches.

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Untested Queens ready in May. Tested, Selected, and Breeders, are from last season's rearing, ready now.

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PROF. A. J. COOK.

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ALBINO QUEENS If you want the most prolific Queens—If you want the gentlest Bees—If you want the best honey-gatherers you ever saw—try my Albinos. Untested Queens in April, $1.00; Tested, $1.50.
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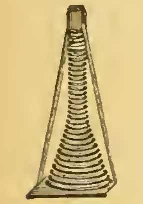

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The MONETTE Queen-Clipping Device is a fine thing for use in catching and clipping Queens wings. We mail it for 25 cents; or will send it FREE as a premium for sending us ONE NEW subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,

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California Queens.

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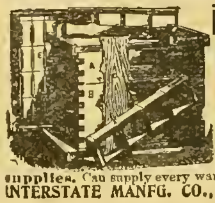

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INTERSTATE MANFG. CO., Box 10, HUDSON, WIS.

FOR SALE—$2,000

The BEST FAMILY TRADE in Honey and Maple Syrup in U. S. A.

Best Clover and Basswood Honey was sold for 25 cents a pound past winter.

Residence telephone connecting with 5,000 other residence 'phones.

Personal introduction given to about 2,000 patrons.

Refer to Editor of American Bee Journal.

Address, X Y Z, care American Bee Journal.

FREE OX-BLOOD TABLETS for thin blood people. — Nervousness, Indigestion — Rheumatism—Female Disease—Brain Food. A SURE CURE......

This preparation contains in a concentrated form the active principles of healthy bullock's blood combined with the most valuable nerve, brain, blood and flesh producing drugs known to the practicing fraternity.

Greatest discovery of the age for suffering people. Less than a year since first put in use, and thousands are being cured every day. To convince you we give a 3 weeks' treatment free—all we ask is for you to send 10 cents to pay postage on sending it. This is safer than paying a doctor $25 to experiment on you. **3 weeks' treatment sent free on receipt of 10 cts. in stamps.**

"I wish to say to you that after many long months of suffering and a broken-down system from the effects of child-bed fever, and at a very large expense with different physicians, and after using 26 bottles of patent medicines and no relief, my husband was compelled to give a mortgage on our home to send me to a hospital, where I still suffered and no relief. I was induced to try your three weeks' treatment of Ox-Blood Tablets, and gained so much in the three weeks that I consented to continue the treatment with a 50c box. They have taken all the pain away. I have gained wonderfully in flesh, and feel as if I had never been sick a day in my life. I advise all weak women to try Ox-Blood Tablets and get the same results I have." MRS. F. G. EDWARDS, Clarinda, Iowa.

50 cts. a box or 6 for $2.50. Address, **W. A. HENDERSON CO.**
17D2t **Masonic Building, Des Moines, Iowa.**

Please mention Bee Journal when writing

Low=Priced Nuclei.

From July 1st to 15th, we will furnish 3-frame colonies, with young laying Italian Queens, each frame well filled with brood, at $2.50 each; 3 at $2.25 each; 10 at $2.05 each; 20 at $2.00 each. This is one of the best ways to increase your stock. Catalog free.

Apiaries—Glen Cove, L. I. **I. J. STRINGHAM, 105 Park Place, New York, N. Y.**

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Four Celluloid Queen=Buttons Free
AS A PREMIUM.

OUR TOIL DOTH SWEETEN OTHERS

OUR TOIL DOTH SWEETEN OTHERS

For sending us ONE NEW SUBSCRIBER to the Bee Journal for the balance of this year, with 50 cents, we will mail you FOUR of these pretty buttons for wearing on the coat-lapel. (You can wear one and give the others to the children.) The queen has a golden tinge. This offer is made only to our present regular subscribers.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate, it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

Prices of Buttons alone, postpaid: One button, 8 cts.; 2 buttons, 6 cts. each; 5 or more, 5 cts. each. (Stamps taken.) Address,

GEORGE W. YORK & CO., 118 Michigan St., CHICAGO.

sult will tell on this year's product. Bees have generally wintered well, and a superior grade of honey may be lookt for. Idaho, Nevada, and Southern California will not have enough honey to supply their local markets; while Colorado will produce about the same amount as last year. April was severe on Colorado bee-keepers, and Utah had but little pleasant weather during that month. Tho stormy and windy, the weather was not as cold as is usual here.

The general outlook for the West is certainly not any more favorable than last year, for a fair honey crop.

GEO. E. DUDLEY.
Utah County, Utah, May 14.

Honey-Flow Commenced.

Our honey-flow commenced about two weeks ago, and we have taken some honey. I am experimenting this season with the plain sections and fence separators. The honey in them is fancy and white.

The American Bee Journal's weekly visits are always welcome. The latest issue for May 10 is especially full of "good things."

W. T. STEPHENSON.
Massac Co., Ill., May 10.

More About Belgian Hares.

I perused with great interest the article on Belgian hares by Prof. Cook, on page 292, and as a breeder of two years' experience, I agree in the main with the remarks therein made, with one exception, viz.: He says the Belgian hare is "bulky, fat, and logy." Now, I would like to know where Prof. Cook saw hares answering to that description. And is it a fact, as often hinted, that California is in the lead as far as numbers go? She is not in quality, for I have not seen any true Belgian

Yellow Sweet Clover Seed

WE HAVE IT AT LAST!

We have finally succeeded in getting a SMALL quantity of the seed of the YELLOW variety of sweet clover. This kind blooms from two to four weeks earlier than the common or white variety of sweet clover. It also grows much shorter, only about two feet in hight. It is as much visited by the bees as the white, and usually comes into bloom ahead of white clover and basswood. We offer the seed as a premium

A QUARTER POUND FOR SENDING ONE NEW SUBSCRIPTION.

So long as it lasts, we will mail a quarter pound of the seed to a regular paid-up subscriber who sends us ONE NEW subscriber for the American Bee Journal one year, with $1.00; or ¼ pound by mail for 30 cents.

We have been trying for years to secure this seed, and finally succeeded in getting it. It is new seed, gathered last season by an old personal friend of ours, so we know it is all right. But we have only a small supply. When nearly out we will mention it.

GEORGE W. YORK & CO.,
118 Michigan St., - CHICAGO, ILL.

FREE FOR A MONTH....

If you are interested in Sheep in any way you cannot afford to be without the best Sheep Paper publisht in the United States.

Wool Markets and Sheep

has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.

WOOL MARKETS AND SHEEP, CHICAGO, ILL.

Please mention Bee Journal when writing.

hares that those terms, even in the broadest sense, could be applied to; in fact, quite to the contrary, they are slim, slick, and racy. Why, 20 points out of a possible 100 in the standard are applied to shape, the sections of which read as follows:

"SHAPE—Body long, thin, well tuckt up flank, and well ribbed up; back slightly archt; loins well rounded, not choppy; head rather lengthy; muscular chest; tail straight, and all together possessing a racy appearance.

"SIZE (5 points)—About 8 pounds.

"CONDITION (5 points)—Not fat, but firm like a race-horse."

As regards logy, I would like to see a kinetoscope reproduction of Prof. Cook catching one in a building 12 feet square; it makes me smile to think of it; I've been there.

Some of the readers may think the high prices stated are far-fetcht. I know of three hares in Prof. Cook's vicinity that could not be bought for $500, and the owner of "Fashoda" refused an offer of $1,000 for him.

I hope nothing of the above will give Prof. Cook offense, as I do not so intend it.
G. L. REIDER.

Oneida Co., N. Y.

IN THE LAKE COUNTRY

of Northern Illinois, Wisconsin, Minnesota and Michigan, there are hundreds of the most charming Summer Resorts awaiting the arrival of thousands of tourists from the South and East.

Among the list of near-by places are Fox Lake, Delavan, Lauderdale, Waukesha, Oconomowoc, Palmyra, The Dells at Kilbourn, Elkhart and Madison, while a little further off are Minocqua, Star Lake, Frontenac, White Bear, Minnetonka and Marquette on Lake Superior.

For pamphlet of "Summer Homes for 1900," or for copy of our handsomely illustrated summer book, entitled, "In the Lake Country," apply to nearest ticket agent or address with 4 cents in postage, Geo. H. Heafford, General Passenger Agent, Old Colony Building, Chicago, Ill. 20A3t

50c Italian Queens reared from the best honey-gathering strains in America, under the most favorable conditions, by the Doolittle method. No in-breeding. Untested, 50 cents each; half dozen, $3.00; one dozen, $5.75.

W. J. FOREHAND,
19Dtf FORT DEPOSIT, ALA.
Please mention Bee Journal when writing.

Queens UNTESTED ITALIAN, 70 cents each; tested, $1 each. Queens large, yellow and prolific. Circular free.
21Atf Address, E. W. HAAG, Canton, Ohio.

Italian Queens $1.00 each, during MAY and JUNE. Nothing sent out but beautiful Queens. Safe arrival guaranteed. Queens are reared from our best honey-gatherers. D. J. BLOCHER, Pearl City, Ill.
Please mention Bee Journal when writing.

For Sale or Exchange.

25 Hives and Supers; 400 Brood-Combs; 500 Sections, 4¼x4¼; 6 Drone-Traps and 12 Honey-Boards. Will deliver all f.o.b. cars at O'Neil, Neb., for $50; or will exchange for recorded shorthorn bull-calf, 2 or 3 months old. Address,
21A1t N. L. JONES, Chambers, Neb.

BEE-BOOKS

SENT POSTPAID BY

George W. York & Co. 118 Mich. St. Chicago.

Bees and Honey, or Management of an Apiary for Pleasure and Profit, by Thomas G. Newman.—It is nicely illustrated, contains 160 pages, beautifully printed in the highest style of the art, and bound in cloth, gold-lettered. Price, in cloth, 75 cents; in paper, 50 cents.

Langstroth on the Honey-Bee, revised by Dadant.—This classic in bee-culture has been entirely re-written, and is fully illustrated. It treats of everything relating to bees and bee-keeping. No apiarian library is complete without this standard work by Rev. L. L. Langstroth—the Father of American Bee-Culture. It has 520 pages, bound in cloth. Price, $1.25.

Bee-Keepers' Guide, or Manual of the Apiary, by Prof. A. J. Cook, of the Michigan Agricultural College.—This book is not only instructive and helpful as a guide in bee-keeping, but is interesting and thoroly practical and scientific. It contains a full delineation of the anatomy and physiology of bees. 460 pages, bound in cloth and fully illustrated. Price, $1.25.

Scientific Queen-Rearing, as Practically Applied, by G. M. Doolittle.—A method by which the very best of queen-bees are reared in perfect accord with Nature's way. Bound in cloth and illustrated. Price, $1.00.

A B C of Bee-Culture, by A. I. Root.—A cyclopædia of 400 pages, describing everything pertaining to the care of the honey-bees. Contains 300 engravings. It was written especially for beginners. Bound in cloth. Price, $1.20.

Advanced Bee-Culture, Its Methods and Management, by W. Z. Hutchinson.—The author of this work is a practical and entertaining writer. You should read his book; 90 pages, bound in paper, and illustrated. Price, 50 cents.

Rational Bee-Keeping, by Dr. John Dzierzon.—This is a translation of his latest German book on bee-culture. It has 350 pages, bound in paper covers, $1.00.

Bienen-Kultur, by Thos. G Newman.—This is a German translation of the principal portion of the book called "Bees and Honey." 100-page pamphlet. Price, 25 cents.

Bienenzucht und Honiggewinnung, nach der neuesten methode (German) by J. F. Eggers.—This book gives the latest and most approved methods of bee-keeping in an easy, comprehensive style, with illustrations to suit the subject. 50 pages, board cover. Price, 50 cents.

Bee-Keeping for Beginners, by Dr. J. P. H. Brown, of Georgia.—A practical and condenst treatise on the honey-bee, giving the best modes of management in order to secure the most profit. 110 pages, bound in paper. Price, 50 cts.

Bee-Keeping for Profit, by Dr. G. L. Tinker.—Revised and enlarged. It details the author's "new system, or how to get the largest yields of comb or extracted honey." 80 pages, illustrated. Price, 25 cents.

Apiary Register, by Thomas G. Newman.—Devotes two pages to a colony. Leather binding. Price, for 50 colonies, $1.00; for 100 colonies, $1.25.

Dr. Howard's Book on Foul Brood.—Gives the McEvoy Treatment and reviews the experiments of others. Price, 25 cents.

Winter Problem in Bee-Keeping, by G. R. Pierce.—Result of 25 years' experience. 30 cts.

Foul Brood Treatment, by Prof. F. R. Cheshire.—Its Cause and Prevention. Price, 10 cts.

Foul Brood, by A. R. Kohnke.—Origin, Development and Cure. Price, 10 cents.

Capons and Caponizing, by Dr. Sawyer, Fanny Field, and others.—Illustrated. All about caponizing fowls, and thus how to make the most money in poultry-raising. 64 pages. Price, 20c.

Our Poultry Doctor, or Health in the Poultry Yard and How to Cure Sick Fowls, by Fanny Field.—Everything about Poultry Diseases and their Cure. 64 pages. Price, 20 cents.

Poultry for Market and Poultry for Profit, by Fanny Field.—Tells everything about Poultry Business. 64 pages. Price, 20 cents.

BY RETURN MAIL.

Golden Beauty Italian Queens,
Reared from imported mothers.

Untested, 50 cts.; 12 Untested, $5.50; Tested, $1.
J. S. TERRAL & CO., Lampasas, Texas.
18Atf Please mention the Bee Journal.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, April 19.—Market is well cleared of white comb honey; a little choice has sold recently at 16c, but dark and mixt goods are slow of sale. Extracted, white, 8@9c; amber, 7@8c; dark, 6@7c, according to quality and package. Beeswax in good demand at 28c.
R. A. BURNETT & Co.

CINCINNATI, March 3.—There is some demand for extracted honey from manufacturers at 7@7½c for amber and Southern; clover, 8@8½c. Comb honey is selling firm at 14@16½c in a small way. Beeswax, 25@27c.
C. H. W. WEBER,
Successor to Chas. F. Muth & Son and A. Muth.

BOSTON, March 9.—Our honey market is showing some signs of lower prices, altho the stock on hand is not large. At the same time prices are so much higher than previous years that the trade have taken it very slowly and the results are that the holders are willing to range prices quite a little in order to move stock on hand. Prices range: Fancy white, 17@18c; No. 1, 15@16c; amber, 10@12c; buckwheat almost unsalable. Extracted, best white California, 8½c.
BLAKE, SCOTT & LEE.

KANSAS CITY, May 9.—We quote: No. 1 white comb, 14@15c; No. 1 amber, 13@14c; No. 2 white and amber, 13@13½c. Extracted, white, 7½@8c; amber, 7c. Beeswax, 22@25c

The receipts and stock of honey on hand are light; demand fair. C. C. CLEMONS & Co.

DETROIT, Apr. 23.—Fancy white comb, 15@16c; No 1, white, 14@15c; amber and dark, 10@12c. Demand and supply both limited. Extracted, white, 7@7½c; amber and dark, 5@6c. Beeswax, 26@27c. M. H. HUNT & SON.

BUFFALO, April 20.—For strictly fancy white one-pound comb honey we are getting 16@17c. Any grade sells high—10@15c, as to grade.
BATTERSON & Co.

NEW YORK, April 9.—Market is practically bare of comb honey of all description. Little lots arrive here and there and sell readily at from 10@11c for buckwheat and 12@15c for white, according to quality and style of package. The market is well supplied with extracted, which we think, however, will be moved before the new crop arrives. Beeswax is in good demand at from 27c to 29c per pound.
HILDRETH & SEGELKEN.

SAN FRANCISCO, Apr. 25.—White comb, 11½@12½c; amber, 8@10c. Extracted, white, 7½@8c. light amber, 7@7½c; amber, 5@5½c; Beeswax, 26@27c.

Small quantities of new crop have been received, but not enough has been yet done in the same to clearly define values. Current quotations would not likely be sustained under anything like free offerings. The yield will undoubtedly prove light, and the market shows a generally firm tone.

OMAHA, Mar. 13.—Demand shows some improvement in January, having been much more active, but as anticipated there is no advance in prices. Market remains steady at 14@14½c for fancy white comb and 8½c for white extracted. The latter is pretty well cleaned up along the Missouri River, and it looks as if there would be some shortage before another crop comes in. From present appearances there is about enough comb honey to go around at the present prices, hence we look for no particular change in values. PEYCKE BROS.

BEES QUEENS Smokers, Sections, Comb Foundation And all Apiarian Supplies cheap. Send for FREE Catalogue. E. T. FLANAGAN, Belleville, Ill.
Please mention Bee Journal when writing.

California! If you care to know of its Fruits, Flowers, Climate or Resources, send for a sample copy of California's Favorite Paper—

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The leading Horticultural and Agricultural paper of the Pacific Coast. Publisht weekly, handsomely illustrated, $2.00 per annum. Sample copy free.

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We have a Large Stock on hand and can ship promptly.

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OR ANYTHING YOU WANT IN THE BEE-KEEPING LINE.

WE MAKE ONLY THE BEST.

Our Falcon Sections and New Process Foundation are ahead of everything, and cost no more than other makes. New Catalog and copy of THE AMERICAN BEE-KEEPER free. Address,

THE W. T. FALCONER MFG. CO.,
JAMESTOWN, N. Y.

☞ W. M. GERRISH, East Notingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.

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MADE TO ORDER.

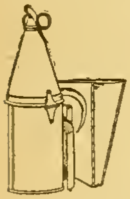
BINGHAM BRASS SMOKERS

made of sheet-brass which does not rust or burn out should last a life-time. You need one, but they cost 25 cents more than tin of the same size. The little pen cut shows our brass hinge put on the three larger sizes.

No wonder Bingham's 4-inch Smoke Engine goes without puffing and does not

DROP INKY DROPS.

The perforated steel fire-grate has 381 holes to air the fuel and support the fire.



Prices; Heavy Tin Smoke Engine, four-inch Stove, per mail, $1.50; 3½-inch, $1.10; three-inch, $1.00; 2½-inch, 90 cents; two-inch, 65 cents.

BINGHAM SMOKERS

are the original, and have all the improvements, and have been the STANDARD OF EXCELLENCE for 22 years. Address,

T. F. BINGHAM,
Farwell, Mich.

Direct-Draft Perfect
BINGHAM
BeeSmoker

I ARISE

To say to the readers of the BEE JOURNAL that

DOOLITTLE...

has concluded to sell **QUEENS** in their season during 1900, at the following prices:

1 Untested Queen ..$1.00
3 Untested Queens.. 2.25
1 Tested Queen 1.25
3 Tested Queens.... 3.00
1 select tested queen 1.50
3 " " Queens 4.00
Select Tested Queen, last year's rearing.2.50
Extra selected breeding, the very best..5.00

Circular free, giving particulars regarding each class of Queens, conditions, etc. Address,

G. M. DOOLITTLE,
11A26t Borodino, Onondaga Co., N. Y.

Please mention Bee Journal when writing Advertisers.

23rd Year **Dadant's Foundation.** 23rd Year

Why does it sell so well?

Because it has always given better satisfaction than any other.
Because in 23 years there have not been any complaints, but thousands of compliments.

We guarantee satisfaction.

What more can anybody do? BEAUTY, PURITY, FIRMNESS, No SAGGING, No LOSS.
PATENT WEED PROCESS SHEETING.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

BEE-KEEPERS' SUPPLIES OF ALL KINDS.

Langstroth on the Honey-Bee, Revised.

The Classic in Bee-Culture—Price, $1.25, by Mail.

Beeswax Wanted at all times.

CHAS. DADANT & SON,
Hamilton, Hancock Co., Ill.

Please mention Bee Journal when writing.

DR. MILLER'S

Honey Queens

One Untested Queen Free as a Premium for sending ONE New Subscriber to the American Bee Journal for one year.

We have been fortunate in making an arrangement with DR. C. C. MILLER—the well-known honey-specialist—to rear queens EXCLUSIVELY FOR US DURING THE SEASON OF 1900. These Queens will be mailed in rotation, beginning about June 1, so "first come first served." We are ready to book orders now.

The Queens Dr. Miller will send out on our orders will be precisely the same as those he rears for his own use, so of course they will be from his best stock. His best colony in 1899 had a queen reared in 1898; May 5, 1899, it had brood in 4 frames, and he gave it at that time a frame of brood without bees. It had no other help, but May 25 a frame of brood with adhering bees was taken from it, and the same thing was repeated June 3, leaving it at that time 5 frames of brood. It stored 178 sections of honey, weighing 159 pounds (and that after July 20, in a poor season), being 2⅔ times the average yield of all his colonies. A point of importance is the fact this colony did not swarm, and an inspection every week or 10 days showed that at no time during the entire season was there even so much as an egg in a queen-cell. Dr. Miller expects to rear queens from this one during the coming summer.

The demand nowadays is for **BEES THAT GET THE HONEY** when there is any to get, and Dr. Miller has such bees. You will want to have a queen from his best, we are sure, even if she is not pure Italian.

Do not send any orders to Dr. Miller, as all orders **MUST** come thru us, according to our agreement.

Remember, send us $1.00 for **ONE NEW SUBSCRIBER** to the American Bee Journal for one year, and **YOU** will get ONE OF DR. MILLER'S UNTESTED HONEY-QUEENS FREE AS A PREMIUM. This offer is made *only* to our present regular subscribers. Orders for queens to be filled in rotation, beginning about June 1st.

Address all orders to **GEORGE W. YORK & CO.,**
118 Michigan Street, CHICAGO, ILL.

GEORGE W. YORK, Editor.

AMERICAN BEE JOURNAL.

ESTABLISHT IN 1861 OLDEST BEE-PAPER IN AMERICA

DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS.

40th YEAR. CHICAGO, ILL., MAY 31, 1900. No. 22.

CONTRIBUTED ARTICLES

Natural or Artificial Swarms—Which?

BY C. P. DADANT.

THIS question, askt by a correspondent—"Which are the better, natural or artificial swarms?"—is a rather complex one, and the answer depends upon conditions to be decided by the questioner. If you desire to buy swarms of bees, I will say by all means buy natural swarms, and the earlier the better. The very best swarms are those that are hived early, mainly because they are the offspring of the very best colonies, or of good colonies that have found themselves in exceptional conditions favoring the production of brood. An early swarm of good strength means a good breeding-queen, and, as she goes with the swarm, she is secured by the purchaser of the swarm.

When I speak of an early swarm, I mean of course a natural swarm, caused by the overcrowding of the hive, and not a deserting swarm, which may be leaving the hive for want of food, or owing to distressing conditions. Practical bee-keepers discriminate at a glance between the two, but many beginners are deceived. A natural swarm issues only in a good honey-producing time, while a deserting colony absconds usually during a shortage of food. The one is always large, the other nearly always small. The one goes with a good supply of food, the other is on the verge of starvation, and I have seen the bees of a deserting colony in summer drop from the cluster from mere exhaustion.

A good early natural swarm hived on full sheets of foundation, or, still better, on full combs from deceast colonies, may, in a good year, prove as profitable as a producer of honey as the colony from which it issued. Instances are plentiful of swarms filling their hive and swarming again, especially in small hives.

But natural swarms are not always best. It very often happens that their queen is old, that she has very nearly attained the age of barrenness, and, within a very few months her colony may decrease and perhaps dwindle to nothing owing to her old age. The bees usually attend to the replacing of the queen by rearing a younger one, when they notice that their mother is lessening her breeding. But sometimes also this is deferred until it is too late, and the end of the season finds them in an abnormal condition with a worthless queen and no brood from which to rear another. Most of the winter losses of queens in otherwise healthy-appearing colonies are due to this.

Personally I prefer artificial swarming (or dividing) to natural swarming for the increase of colonies in an apiary, for a number of reasons. I hold that the best colonies for honey-production are the very ones that would swarm most, if circumstances are such as to induce natural swarming. Therefore, by allowing your bees to swarm, or by causing them to swarm, you lose the best of your chances for a honey harvest. It is true that very often, especially with small hives, it is impossible to prevent bees from swarming during a good honey-flow. For such a condition there is no remedy unless you want the swarms, and begin by dividing the colonies early enough to avoid the swarming-fever. In this case you sacrifice the crop for an increase. But if only a moderate increase is wanted, and honey is expected, the swarming may be limited to a certain extent even with small hives, by making all the circumstances as favorable as possible to the comfort of the bees. Plenty of space in the hive, a good, free ventilation

Bitter Sweet.—(*See page 345.*)

(From the painting by V. Tojetti.)

thru a wide and deep entrance; a good shade during the hot hours of the day, and little or no drone-brood allowed in the hive—these arrangements will go a long way towards preventing natural swarming, even from the very strongest colonies, and a fair crop of honey will be the result. If there are swarms they will be good ones.

But some apiarists I have seen, who, in order to procure an increase, purposely leave off the supers, confine the bees to the brood apartment, and try by all means to induce the casting of swarms, thinking this the best way of securing a profitable addition to their apiary. It would be much better if they avoided the annoyance of having to watch their colonies, and to hive the swarms by making artificial swarms.

Divisions may be made in many different ways, and each apiarist with a little experience has his own method. But the *sine qua non* of successful dividing is in the supply of good, healthy queens from the very best stock. It is in this item that there is a most decided advantage in artificial swarming over natural swarming, for, with a little care, you can rear your queens from the very best mothers of the very best variety, and secure uniformity, prolificness and purity, and, altho perfection is never to be attained, and inferior stock will ever be found, yet the careful selection of breeders is the surest way for advancement in the breeding of bees, as well as in raising chickens or any of our domestic animals.

It is always best, if you wish a careful selection, to rear your own queens, and to rear them as much as possible in full colonies; but I cannot agree with those who hold that queens reared in nuclei are worthless. If the apiarist is careful to start his queen-cells in a good colony they may be hatcht in nuclei without danger, provided these nuclei are supplied with bees enough to keep warm all the space they are given. We used to rear queens by the hundreds every year, and all our apiaries have been stockt at different times with such queens, and our experience in honey-production warrants us in saying good queens may be reared, and just as good ones are reared, by artificial methods as by natural swarming. And why should they not? Is the son of the laboring-man born in a hut, or in the fifth story of a tenement house, less sturdy, less able to work and produce, or less able to reproduce his race than the pampered and overfed son of wealth? Descent has the greatest influence on generations, but the children usually inherit their ancestors' ability for work, strength and vigor, even when reared under the most unfavorable circumstances.

Hancock Co., Ill.

The Relation of Honey-Bees to Practical Horticulture.

(*From Proceedings of the Columbus (Ohio) Horticultural Society for 1899.*)

BY PROF. WILLIAM R. LAZENBY.

TO what extent the pollination of the blossoms of our more common cultivated fruits is dependent upon the honey-bee is a question of practical interest to every horticulturist.

During each spring for several years past a series of observations bearing on this question have been made by the Horticultural Department of the Ohio State University, and the results of these observations may be briefly summarized as follows:

The apricot, which is frequently planted in sheltered positions having a warm exposure, is usually the first fruit-tree to blossom in Central Ohio, and honey-bees have occasionally been seen working quite freely upon these trees as early as April 1st. Some years, however, it is as late as April 20th before the blossoms appear. Closely following the apricot are some of our early-blooming plums, and where different varieties of this fruit are grown, the period of blossoming is quite extended. For example, during the past season in our University garden, plum trees were visited by honey-bees from April 16th until May 10th, inclusive, a period of 25 days; the Japanese plums being the first, and some of the European varieties the latest in blooming. This length of period is only possible where several distinct varieties or groups of plums are grown. For any one variety or group the season is much shorter. The pollen-collecting and honey-gathering period is rarely more than five or six days for an individual tree. If two or three days of this time are cloudy, rainy or windy, the chances of pollination are lessened.

Pears and peaches soon follow the apricots and the earliest plums, and these in turn are closely followed by the cherries, the early sweet being first, and the early sour a little later. Apples come into bloom last among our common tree fruits, but their period of blooming, as a class, is somewhat longer than that of the peach, plum or cherry.

Arranging the fruits grown in this latitude according to the date of blossoming, beginning with the earliest, the sequence would be apricots, plums, sweet cherries, sour cherries, pears, peaches and apples.

Arranging them according to the frequency of the visitation of the honey-bees, the sequence would be plums, cherries, apples, peaches and pears, and this is based upon the collection of pollen rather then honey. In the way of honey-production I would place apples first, then cherries, plums, peaches and pears.

The following tabulations show the activity of bees at certain periods, the comparative number collecting pollen and honey, the approximate number of flowers visited, the weights of bees, and the weights of the loads of honey and pollen that were carried at certain dates:

TABLE I.—Number of bees leaving and returning to hive at different intervals, and number collecting pollen and honey, May 3, 1899—plum and cherry trees in height of bloom.

TIME.	Number of Hive.	Outgoing Workers.		Returning Workers.			
		Number leaving in 30 minutes.	Number per minute.	Number return'd in 30 minutes.	Number per minute.	Loaded with Pollen.	Loaded with Honey.
8:30 to 9:00 A.M.	1	1050	35.0	900	30.0	640	260
	2	1206	40.2	930	31.0	626	304
11:30 to 12:00 M.	1	1200	40.0	1248	41.6	240	1008
	2	1452	48.4	1542	51.4	178	1354
2:30 to 3:00 P.M.	1	2340	78.0	2424	80.8	75	2349
	2	2530	84.3	2862	95.4	57	2805
May 7, Apple-Trees in Full Bloom.							
8:30 to 9:00 A.M.	1	696	23.2	702	23.4	164	538
	2	1140	38.0	825	27.5	606	219

It should be noted that in no instance were the bees counted as pollen-laden unless an appreciable amount of pollen could be seen in the pollen-baskets.

Careful and repeated observations made on different days and different hours of the day have clearly shown that when the weather is pleasant, and bees numerous, a very large percent of the blossoms of some of our fruit-plants are visited by one or more bees. In every case coming under my own observation, I found plums and cherries visited the most frequently of the tree fruits. Altho peaches have a very showy and apparently attractive flower, and the pear-blossom a markt odor, bees do not visit them in anything like the number that they do the plum and cherry. Apples are visited more freely than pears and peaches, but not so freely as plums or cherries.

Bees do not appear to be attracted by the flowers of the common garden currant, but with the gooseberry they seem a little more familiar. Raspberries and blackberries are visited freely, especially the red raspberry. During a single favorable hour I have seen nearly every blossom on an average-sized stool of a Turner raspberry visited or toucht by bees.

Strawberries are infrequently visited by bees. Upon several occasions I have carefully observed good-sized strawberry plantations when in bloom, and can count upon my fingers the bees I have actually seen in contact with the flowers. They are often seen flying over the strawberry-plants, appearing to have been attracted by the early and rather showy flowers, but they rarely alight upon them, at least on our own grounds.

During the height of the strawberry-bloom I have seen dozens of bees upon the flowers of the weeds that were among the strawberry-plants, but seldom one on the flowers of the strawberry.

If I were to mark the different common fruit-plants on a scale of 10, showing the comparative number of flowers of each visited by honey-bees, os observed on our own grounds, and under essentially the same conditions, the grading would be as follows:

Red raspberry, 9.5.
Blackberry, 9.
Plum, 9.
Cherry, 8.5.
Blackcap raspberry, 8.
Apple, 6.
Gooseberry, 4.5.
Peach, 3.5.
Pear, 3.
Currant, 2.
Strawberry, 1.

On the morning of May 17th, between the hours of 8:30 and 9:30, 16 bees were caught singly as they came from the hive and were immediately killed by means of a cyanide bottle. Each bee was weighed separately, and the results are given in the following table:

TABLE II.—Giving weights of outgoing bees.

No.	Grams.	No.	Grams.
1	.092	9	.083
2	.071	10	.071
3	.075	11	.075
4	.075	12	.075
5	.078	13	.073
6	.083	14	.081
7	.078	15	.087
8	.091	16	.081
Total weight.......1.267 grams.		Average weight.... .079 grams.	

It will be seen that the lightest bee weighed .071 of a gram, and the heaviest .092 of a gram, the difference between the extremes being .021 of a gram. The average of the 16 weighed is .079 of a gram, or 1.219 grains. According to this average it would require in round numbers 5,750 bees to weigh a pound. A prosperous colony of 30,000 workers would weigh at this rate about 5 1/5 pounds.

On the morning of May 19th, between the hours of 8:30 and 9:00, 16 bees were caught singly as they entered the hive. None were taken except those that bore every evidence of being honey-collectors. These bees were immediately killed and weighed separately as before. The results are shown in the following table:

TABLE III.—Giving weights of honey-collecting bees.

No.	Grams.	No.	Grams.
1	.122	9	.073
2	.083	10	.086
3	.116	11	.081
4	.085	12	.122
5	.105	13	.086
6	.100	14	.096
7	.082	15	.082
8	.114	16	.078
Total weight.......1.511 grams.		Average weight.... .094 grams.	

It is shown by the table that the honey-loads of bees are quite variable, and it is probable that their efficiency as honey-collectors is like the efficiency of men as money-makers—some accumulating great stores, while others, apparently as industrious, have little or nothing to show for their labor.

If we take the average weight of the out-going bee (.079 of a gram), and deduct this from the heaviest honey-laden bee, the weight of which is .122 of a gram, we have a difference of .043 of a gram. This means that a bee that is an energetic and capable honey-collector returns to the hive considerably more than one-half heavier than when it begins its collecting trip.

Deducting the average weight of the out-going bee (.079 of a gram) from the average weight of the in-coming honey-laden bee, .094 of a gram, leaves .022 of a gram as the normal or average weight of the honey-load. This is 27 percent of the average weight of a bee, or a little more than one-fourth of its own weight.

On May 26th, between the hours of 8:30 and 9:00 a.m., 12 pollen-laden bees were taken just as they were entering the hive. Their individual weights were as follows:

TABLE IV.—Giving weights of pollen-laden bees.

No.	Grams.	No.	Grams.
1	.091	7	.080
2	.091	8	.092
3	.077	9	.091
4	.081	10	.080
5	.098	11	.081
6	.075	12	.079
Total weight.......1.019 grams.		Average weight.... .085 grams.	

Taking the average weight of the out-going bee, which we found to be .079 of a gram, and deducting this from the pollen-laden bee, we have .006 of a gram as the average weight of a load of pollen. This is about 7.5 percent of the average weight of the bee.

Taking the average weight from the weight of the heaviest laden bee, we find that the pollen weighs something over 16 percent of the weight of the normal bee. In other words, a bee may carry about one-sixth of its weight of pollen, altho the average load is certainly much less.

The statement is frequently made that bees collect honey and pollen at the same time. My observations lead me to believe that this is not the case. I have killed scores of pollen-bearing bees just as they were entering the hive, and have never found one loaded with more honey than one is likely to find in any worker-bee when it leaves the hive. The bee acts upon the maxim that "a little provender hinders no man," and almost invariably takes a lunch, or carries a small supply of food when starting out on a collecting-trip. Altho the pollen-gatherers, as we have seen, do the light carrying work of the hive, I am firmly convinced that they are of equal if not of greater service in the work of pollination than the honey-gatherers.

Painstaking counting under many different circumstances shows that for the same time, and speaking with reference to our common fruit-plants, the pollen-gatherer visits from three to five times as many flowers in a given time as the honey-collector.

The observations I have briefly recorded, while not important in themselves, may stimulate others to investigations of equal interests and profit to apiarists and horticulturists.

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No. 10.—Our Helpers—How to Get the Most Out of Them.

BY "OLD GRIMES."

As to human beings, the most of us are like the magnet, either positive or negative, and in varying degrees—some attract and some repel. In every-day life Old Grimes meets people he attracts and others that he repels, and sometimes he thinks that those he repels are in the majority, and this subtle force is felt not only between us and the stranger, but with our own blood in our own family. To get the most out of the growing helpers in our own family there should be the utmost confidence between parents and children, there should be no stage secrets, and no skeletons in the closet. The word fitly spoken, with the heart and not the lips, in the way of advice, commendation, sympathy, or as an incentive to better things, has saved many a young person, while the need of it has sent many to the pit.

Old Grimes gets along fairly well with his helpers, and especially with our boys there has always been harmony. It is well to give the boys and the girls a share in the proceeds of the apiary, and a liberal share at that. If the boy confides in you, and makes a good use of his share, it can be profitably increast the next year, for your boy's welfare is yours. If he does not make good use of it don't discourage him and harden his heart by cutting off his share, but do not increase it until he does make a good use of it, then there will always be an incentive to better deeds.

The Grimes family have generally been able to do their own work, but sometimes when the older boys were called away to an early term in the academy, an outsider was called to fill their places for a few weeks. We always take a new man upon probation, for the bee-business calls for certain traits possest by but few, but in the first place we have no use for a drunkard or for a person who uses profane or filthy language; this settled, the next consideration is our status toward each other. If we are both of the kind that repel, the helper will not stay long, and he will probably go away with not a very good opinion of us. If, on the contrary, we attract each other, we get along finely for awhile, and if he readily takes to the management of bees we may get along one season together, but we are so chummy that it is not long before the helper has an idea that he owns the apiary and takes a fatherly interest in the owner; when that trait develops, the helper would better go.

If the conditions are just right between us, there are many features that arise during the probationary period that try the patience. Perhaps he is careless and always breaking things, or leaving things where it requires half an hour to search for them, leaving the doors open, putting supers or covers on askew, or the honey runs slow from the tank, and he slips away to do someting else and forgets the tank, but by and by suddenly thinks of it, and comes around with a rush and finds the receptacle full and 30 or 40 pounds upon the floor. And right here Old Grimes wishes to say that he has some sympathy for the helper, for he has done the same trick himself—and pray what bee-keeper has not?

By the exercise of charity and patience, which virtues every bee-keeper should have a good amount of, we can get along with the erring one, and finally make a very good bee-keeper of him. Next to the sin of drunkenness in a helper is the one who gives us eye service only—we do not need that kind. We are not so particular as to expect a man to take the interest that he would in his own property, but there is an interest just as valuable to us, and that is when the helper desires to get as much out of the apiary as any one else ever did, and leave it in good condition. When such a man is found—and we are happy to say there are many of them—stick to him, hire him every year if you can, pay him well, take an interest in his welfare, and when he sets up in business for himself don't forget him.

The ever-faithful horse is a helper not to be overlookt, and for the movement of bees and honey the characteristics must be docility and patience. A horse that shies is always a source of anxiety, and is liable to run the wagon into the ditch, and a consequent tip-over, and a balky horse is an abomination not to be endured. Two horses are better than one, and the business should be large enough to enable us to employ them. We like to be upon good terms with our horses as well as with our other helpers; we like to feed them well, and groom them, and when upon the road use judgment in loading and driving them. Some drivers can get a great deal more out of a team and not injure them than others can who abuse their horses.

A horse will seldom learn to take bee-stings with equanimity—the dear animals are used to being bitten with flies all day and mosquitoes all night, but when a bee punctures them with its business-end a deadly, vindictive enemy is recognized, and the horse becomes frenzied with fright. Our first care is to have gentle bees, and to manipulate them so as to let this trait develop to the utmost. In the early spring or autumn we can drive the team near the apiary with safety, but in the height of the honey season it is well to keep proper distance, or to come near only in the night. Where much hauling is done large blankets should be provided, and when upon the road it is handy to have the whiffletrees so constructed that they can be detacht at a moment's notice; these precautions, if heeded, will in many instances save our four-footed helpers.

Recently there has entered into the life of our home circle a very quiet helper. When "Kate" is harnest and Joe is invited to get into the wagon to go to an out-apiary, he says, "No, pa, with my helper I will get there and have half of the work done before you get there;" and he generally does. What wounderful applications of mechanical principles we witness in these latter days—not only can the young man fly, as it were over the roads, but the old man can renew his age and race over the earth faster than he ever could in his youthful days. We can sit down to machines, and on machines do a great amount of work, and now we can sit down to walk and to run. Thanks to the bicycle, it is a pronounced helper in the apiary.

Hiving and Managing Swarms Advantageously.

BY C. DAVENPORT.

I HAVE before in these columns mentioned the fact that I largely practice hiving two swarms in one hive. These swarms may be either natural or artificial, or one may be a natural issue and the other artificial—it depends upon circumstances, but it is all practically the same thing, and the thought may have occurred to some who have not been engaged in our pursuit long, whether it pays to hive two swarms together, and if more surplus can be secured in this way than if each swarm is allowed a separate hive. It undoubtedly pays with me, and I will endeavor to explain why. This will necessitate briefly describing my locality in respect to the time, character and duration of its honey-flows or yields, for upon these things or conditions—or, in other words, the locality largely determines the question of whether it pays to hive two swarms in one hive, but in this case the word "locality" must be considered in a broad sense or view, for the conditions in some of the middle or even southern States might be similar enough in some respects to what we have here, to make the practice pay, while in other latitudes, even as far north as this, they might not.

As a usual thing the early spring flows here are sufficient to support brood-rearing, but after fruit-bloom, until white clover commenced to blossom, there used to be a short spell during which it might be necessary to feed in order to have brood-rearing kept up as rapidly as it should at this time, but of late dandelion bloom has bridged the gap between fruit and clover bloom. This has nothing to do with the matter being discust, but I mention it because it is, to me at least, very curious how rapidly this dandelion bloom has increast. There has always been some here, but nothing compared to what there is at present, and formerly it was about gone soon after fruit-bloom. Of late it has kept in blossom more or less all the fore part of the season, in fact it is becoming too much of a good thing, for I have had bees working on it at the same time white clover was yielding, and when it is mixt with clover honey it nearly ruins the latter, for it is dark, rank-tasting honey, fit only for brood-rearing, or to sell for manufacturing purposes.

The properties of the two plants are such as greatly to favor both being workt when they are in bloom at the same time, for white clover, as a rule, does not yield as well during the fore part of the day as it does the latter, and dandelion bloom yields and is at its best in the morning. Later the blossoms completely close up so that on low pasture lands here that may be literally yellow with its bloom in the forenoon, there may not be a single blossom to be seen in the afternoon.

Three years ago I extracted about 2,000 pounds of nearly pure dandelion honey before white clover commenced to yield. White clover usually commences to yield slowly about the first of June, basswood the first of July, and lasts about 10 days. This gives us a white honey-flow of about 40 days duration, tho the time this flow commences, as well as its length, may vary considerable, owing to the season or the failure of one or the other of its sources; but I can say in favor of my locality that in my time clover and basswood have never both failed the same season. At least 80 percent of what swarms I have are made or issue during the first three weeks of June.

I can imagine some are now saying, "You are away off, old man; you should have your swarming all done and out of the way before your main flow commences." This can not profitably be done here. The time previous to this, that is, the length of time between settled warm weather and the fore part of June, has not been sufficient so the colonies on an average will become populous enough to swarm sooner naturally, and so far as I understand it at present artificial swarming should not be performed until it is a necessity, in order to prevent natural swarming. Many of the strongest colonies might naturally swarm about the first of June, but my practice along towards the last of May is to take the combs of brood and young bees from the strongest colonies and exchange them with weaker colonies for empty combs, or those which contain no brood, and I consider that this pays, for it prevents a large percent of the swarming that would otherwise take place, or have to be done.

Now it will be noted that what swarms I have, taking an average, will have about 30 days or less in which to gather white honey. As it takes the eggs about 35 days to develop into field-bees, it will be seen that these swarms have not time to develop brood into field-bees to work on this white honey-flow, so the less brood they rear the more surplus white honey, for what brood they do rear is reared on this white honey; and another thing is, that with less brood to tend there is a larger force free for field-work.

Now, if two swarms are hived together in a hive the brood-nest of which is only as large as would be allowed if they were hived separately, only half the amount of brood can be reared that could be if they were each given a hive; and from long practical experience in the matter I know that taking one year with another I can here with swarms secure nearly, if not quite, as much again white honey by hiving two together; and I work for white honey regardless of increase; and also of amber and dark honey. Whether the practice would pay if one desired these things to be considered is another question.

When hiving two swarms in one hive, if small hives are used, two stories should be allowed for a brood-nest until they get well started to work; then the lower one can be removed and more surplus given in its place; for often two large swarms will not stay and commence work willingly in one small hive, no matter how many supers filled with sections are placed on top. They can be forced to stay, of course, but this forcing is often a difficult matter, and they may sulk away much valuable time before commencing work.

Another important thing which will apply to swarms hived either singly or together, is to keep the empty hives in a cool, airy place until needed. A swarm hived in a hive that has been out in the hot sun is much more apt to desert, and after the swarms are hived their hives should be kept well shaded for a few days. The most satisfactory shade is obtained by the use of a shade-board, which is large enough to project over the hive six inches or more all around. But this board should not rest down flat on the hive-cover; if it does, and is dark colored, as they soon get to be when made from unpainted lumber, it may do more harm than good. Provided the cover is painted white, there should be an air-space of at least a half inch between the two.

With cool, well-shaded hives, and at first a brood-nest in proportion to the size of the swarms, I do not consider it necessary to raise the hive up from the bottom-board all around. I allow only the usual entrance in front, and place a queen-trap or entrance-guard on until they get well settled down to work. Of late it is very seldom that I have swarms attempt to desert, but I do not wish to run any risk with these big, double swarms, and when swarms desert they often leave without clustering.

With clipt queens zinc is not so necessary, but it might prevent a clipt queen being lost or destroyed by crawling into another hive, but when it is used, and there are a great number of drones with the swarm, it should be removed when they are anxious to get out. Then if it is replaced while they are having their flight, most of them will be shut out, and soon join the bees of other hives.

Southern Minnesota.

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Devices for Use at Swarming-Time.

BY F. A. SNELL.

In years past numerous contrivances have been gotten up by bee-keepers for catching swarms when they issued during swarming-time. These were much lauded by their inventors, who seemed, at the time, to think they had invented something that would be all that could be desired for the purpose intended. The various devices were tried for a few years, and all but two were dropt. These are Manum's swarm-catcher and Alley's drone and queen trap, which are now in use, and have proved of much practical value, and, it would seem, have come to stay.

Manum's swarm-catcher is used after the bees have clustered. The bees are allowed their own sweet will in coming forth from the parent hive, circle about and cluster where they please. The swarm-basket can be used on a rod, or rods, at the option of the apiarist. In our apiary we have rods of different length. The basket with its bail is in a moment detacht from one rod and slipt into the upper end of another. The length of rod should be such that the bee-keeper can reach the swarm when standing on the ground.

When the swarm is clustered the attendant takes the catcher, and throwing the basket-cover back, places it under the cluster, and by a slight upward movement dislodges the larger part of the swarm, which drops into the basket. The basket is given a little turn, so as to close the cover. The lower end of the rod is pusht into the ground, and two iron rods used as braces are also made firm at their lower ends in the ground, forming a tripod. The limb may be shaken by a rod or pole with a hook on it to slip over the limb, if at much hight from the ground. The bees shaken off will soon all cluster on the outside of the basket. This swarm may be carried and shaken down at the entrance of any previously arranged hive, or, if other swarms are out, the first swarm may be left until the second one is caged in the swarm-basket. I find it advisable to have two or more swarm-catchers in readiness.

By using this device very much handling of ladders, and hard climbing, are saved, which saves the danger from the ladder slipping off a weak limb and giving one a fall.

We have one pole without the braces, and shorter, with which we take down swarms when only above one's head, as he stands upon the ground.

The catcher, as soon as the swarm is in the basket, or the larger portion of it, should be placed at once so the basket will be near where the swarm was clustered. This is important, as the bees when on the wing quickly cluster at this place, and would not join the caged bees when only a few feet away very readily; they cling to this clustering place with tenacity. When the catchers are used there need be no carrying of hives to where the swarms are clustered.

The above described device is worthy of a place in every apiary where the queen's wings are unclipt, and will pay its cost many times each season when much swarming occurs.

The Alley trap is used at the hive-entrance, and when a swarm issues the queen in her attempt to leave with the swarm is trapt, and the swarm missing her will return to their old location. If the apiarist wishes increase he can, while the swarm is in the air, remove their hive and put an empty one in its place supplied with starters or full sheets of foundation in the brood-frames. The swarm on its return will enter the new hive, to which the trap should have been transferred; and, when nearly all are in, the queen is allowed to enter the hive, and the work of hiving the swarm is done.

For out-apiaries this trap will prevent effectually the loss of swarms, accompanied at least by old queens, during the owner's absence. On visiting the apiary the queen will be found in the trap, so arranged that she can not enter the hive if desired. The division of the colony can then be made if the apiarist so chooses, or the queen may be returned to the old hive after removing the queen-cells, which, if near the close of a good honey-flow, may end the desire to swarm for the season.

At the swarming-time these traps where used should be placed at the entrance of all hives having strong colonies that are likely to cast early swarms.

The two devices above-described have been well tested, and have been of value to many, and should be tried by all who do not clip their queen's wings. In our apiary we have tried other devices for catching swarms, only to throw them aside, but the above we have found valuable.

At the close of the swarming season the catchers should be housed, and, when thus cared for, will last many years.

Carroll Co., Ill.

THE AFTERTHOUGHT

The "Old Reliable" seen thru New and Unreliable Glasses.

By E. E. HASTY, Richards, Ohio.

INITIAL STAGES OF FOUL BROOD, ETC.

Our British friend, F. Gordon, on page 242, we thank for his suggestions that larvæ restless and turned wrong in the cells marks a mild initial stage of foul brood. Seems reasonable. But he must remember that we are getting a large assortment of diseases over here. He can hardly *know* but some of our new-fangled diseases also make larvæ restless in the cells sometimes. We will receive his saying that it takes three weeks or more for incipient foul brood to develop into malignant foul brood as a lively contribution to our stock of good guesses. And his experience that izal is not enough of a cure to cure a lot of colonies in a diseased apiary is in line with what our best authorities have been finding out about other cures.

ABOUT THAT CITY BEE-KEEPER.

"Urbanite" did well in his Chicago bee-keeping on the roof. Instructive to see that the non-swarming arrangements resulted in a swarm, and that the swarm was so kind as to come back in the course of an hour. And his vote that sweet clover honey is superb is a timely vote, even if not a conclusive one. Page 244.

HONEY-EXTRACTOR HISTORY AND HONORS.

That was rather a strange mistake of Gleanings in Bee-Culture—and we'uns—that Peabody was first to put an extractor on the American market (patent 1869) when Langstroth advertised one February, 1868. Probably it came about by Peabody advertising and selling freely, and Langstroth advertising and selling but little. M. M. Baldridge, by making and selling a *geared* extractor the year before the Peabody ungeared came out, seems to deserve an honorable mention. Page 245.

WONDERS OF PLANT ECONOMY AND GROWTH.

Yes, Prof. Cook, we have lots of ignorance to dissipate, and lots of wrong ideas to be disabused of, in the matter of plant growth. When I began the reading of your article, page 243, I had no distinct idea that the chlorophyll of leaves was ever, in the plant economy, used for anything. Thought it was like the paint on a house—put there for keeps. That an unhealthy plant looks yellow because it gets its green used up, and is too feeble to make more, is a novel way of putting it. And how handy it is that starch and sugar and woody fiber are chemically similar and transmutable! But I believe the scientists do not tell us of a plant ever transmuting woody fiber *backward* into either of the others. The glucose-maker can do it—we'll play that the plant is too honest. How convenient the non-solubility of starch in cold water makes it for keeping supplies on hand for time of need! The solubility of sugar makes it difficult to keep—or perhaps the difficulty is rather in keeping it restrained to one locality. The sugar-cane keeps its reserves as sugar by filling all the cells of the stalk with it

VARIOUS METHODS OF LEARNING APICULTURE.

Mr. Whitney reminds me of that learn-to-swim individual who lay down on a big table and went thru the frog motions of arms and legs before going into the water. 'Spects swimming can be learned that way quite as well as apiculture. Page 245.

APIARY FENCED IN WITH EVERGREENS.

We sometimes forget a lesser advantage in contemplating a greater one. Most of us have in mind the great advantage of having an apiary fenced in by big evergreens during a windy winter—but those windy spring days when we want to open hives, and prudence bids us abstain, or imprudence makes us go ahead and realize more harm than the operations do of good—evergreens would be very desirable then also. Moreover, we often experience discomfort and bother from wind when no serious damage to brood or bees follows, yet it would be nice to be relieved of the bother. Page 250.

TOO MUCH SOAP IN RENDERING BEESWAX.

It seems strange that Mrs. Woodmansee, page 251, should with worthy intent to have things as nice as possible, get so much soap in her beeswax as to spoil it. Am tempted to wonder if there was not an unnoticed something else that did most of the mischief. Mush instead of a cake of wax sometimes results when there is too much honey in the refuse; but in that case the wax is not really damaged at all, only put into a state from which it is some bother to recover it.

MR. STOLLEY'S SHED-APIARY.

Mr. Stolley, your apiary, page 257, seems to be the best looking one of its kind that has been presented to us lately. Not a very common kind is the bee-house with one side of the house left off. You omitted to state how you get at the hives to manipulate them—whether by removing some of the nuclei, or by slipping a hive to the rear, or by thrusting forward from the rear one's nose and paws. Storms can drive under your structure somewhat worse than with the lower and less "scrumptious" little sheds we have contemplated heretofore. Brilliant idea to utilize good-looking and ill-behaving hives as roof ornaments—only perhaps some brethren, of a particular turn of mind, would not enjoy looking upon their own costly foolishness so constantly.

NON-SEPARATORED HONEY.

"Control all the necessary elements, and you can have fair sections of honey without separators, but you *can not* control all"—that is a lucid way of putting it, Comrade Aikin. And the man who ships cases of sections which can not be rearranged hit or miss without bumping is second cousin to the man who ships unripe extracted honey—destroys other people's market, as well as his own, rather than fulfill the conditions of furnishing a really first-class article—too lazy—and greedy. Thunder and lightning in store for you, Mr. A., as a reward for your article on page 259; but you are right, let 'er thunder!

A "QUEENLY" COMMENT.

Your best girl, if rescued from the ruins of a house wreckt by a tornado, might not look her best just then—and you would not think of demanding it—but when a queen goes thru the round of Uncle Sam's mail-bag cyclone, straighway you remark that she looks small, unshapely, dark and unpromising generally. 'Spects Henry Alley is right, on page 261, that we should hold our maledictory "hosses" until the poor queen has had time to brush up and look in the glass.

PUTTING ON SUPERS—SWARMING.

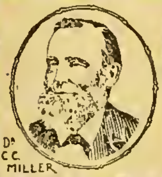
"Put on supers ten days after you see the first clover blossom." Strikes me, Dr. Miller, that is a helpful general maxim for clover territory, if not ridden too hard. Not quite sure I like those big hatcheries five stories high. As in other baby-farms, I fear there is much infantile death that comes nigh unto murder. But I *am* quite sure I don't like swarm-controlling beatitudes when they begin with the words, "When a swarm issues and returns." Page 262.

REMOVING QUEENS IN SEPTEMBER.

George W. Riker takes away the queens of strong colonies in September to keep drones for the early spring. I think that careful observation and report as to what proportion of the drones survive the winter, and when the last finally die, would be acceptable information to some of us. Page 268.

BEES AND STRAWBERRY-BLOSSOMS.

In these papers heretofore I have spoken quite decidedly about the rarity of bees visiting strawberry-bloom. Perhaps I would better begin eating my words before somebody heaves bricks. This year during cold weather in fruit-bloom bees visited strawberries quite persistently. Perhaps if I had lookt as carefully as I have this year I would have seen it before. Also, I have seen several species of little insects that work at the same business. Some of these are sized about right to crawl under the stamens and get pollen on their backs. Somewhat to my surprise most of these little chaps are also bees, or insects closely related to the bees. One species seems to be the familiar sweat-bee that visits our sweaty arms and necks, and gives us a tiny sting when we crowd him. The plentiest one is black and very spry, and the "cut of his jib" almost tempts one to call him a winged ant.



QUESTIONS AND ANSWERS.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Increase by Dividing.

I have one colony and would like to make two out of it. My idea is to take a few of the frames with brood and fill with frames with foundation the remainder of the hive, and put in a new queen. Is my idea right? NEW YORK.

ANSWER.—Your plan will work. Keep in mind that the part put on the new stand will lose all its field-bees, as they will return to the old stand. So you must put most of the bees on the new stand, if you want anything like equal strength in the two parts.

* * *

Wood Splints Instead of Wires in Frames.

A couple of months ago splints were recommended instead of wires, and again recently appeared an answer to a subscriber giving some further directions, but I am still at sea as to how to use them. I judged first that they were to be the length of the frame, so as to fit in between the end-pieces; that is, they were to lie horizontally; but later the directions were that they are to be cut an eighth of an inch shorter, and, I would judge, to stand perpendicularly, but it didn't say so; nor was it told how they are to be fastened in, whether by imbedding slightly into the comb foundation, or by sticking with a little wax.

Again, I am puzzled to know why they should be cut ⅛ inch shorter if they are to be set in perpendicularly; in fact, the instructions are entirely too meagre, or else my brain is too dull. A great deal of the value of many good things is lost because of the way in which they are written. ONTARIO.

ANSWER.—It is an unfortunate thing that room is limited in these columns; for in spite of trying to condense, it sometimes happens that the printer has hardly room enough for all the answers in this department. Again it happens that when a thing is once given in full it will hardly do to repeat it in full within a short time. Still again, when a question is askt, if that question is fully answered, you ought not to be too hard on the one who gives the answer because he fails to tell some things you want to know about but have not taken the trouble to ask. On page 70 of this journal for Feb. 2, 1899, you will find full instructions in the matter of foundation-splints, the instructions being as follows:

"The splints or little sticks are 1-16 square, and ⅛-inch shorter than the depth of the frame, inside measure. The paraphernalia needed to do the work are: A pair of pliers to lift the sticks out of the melted wax, a board to use as a presser, ¼-inch shorter than the inside depth of the frame, 3 or 4 inches wide and ¼ or ⅜ inch thick, with one edge kept well soakt in water so the wax will not stick to it, and a board ⅞-inch thick just large enough to slip loosely inside the frame, having strips nailed on the sides as stops so that the foundation will rest on the board while the frame rests on the stops. Put a bunch of the sticks in the heated wax. They will froth up at first because of the air and moisture in the wood. In a little while that will be cookt out and the wax will settle down clear. Then with the pliers lift a stick out of the wax and lay it on the foundation, and with the wet edge of the presser press it into the foundation. Being hot it will melt its way into the foundation, and if prest too hard or too long may cut the foundation in two. A little experience will enable you to do it right. It is perhaps well to heat the wax little more than enough to keep it melted, for if too hot there will not be so good a coating of wax on it, and if you use a stick not coated with wax at all the bees will dig out the stick. The sticks are put perpendicularly, one about an inch from each end, one in the middle and one on each side of the middle one-half way between it and the end one."

The only thing not answered therein that you ask is the reason for having the splints ⅛-inch shorter than the depth of the frame inside measure. The splints are made of basswood, and basswood is said to swell and shrink endwise. A stronger reason, however, is that if you have the splints full length it will be very troublesome to get them into place. It doesn't matter whether they are close to the top-bar or bottom-bar. If other points are desired, ask, and your questions will be cheerfully answered.

Copper Wire for Wiring Frames.

Will copper wire affect comb or honey? I should like to use it for wiring frames. IOWA.

ANSWER.—I don't know, but I should be afraid of it. The ordinary galvanized iron or steel wire is all right.

Putting Nuclei on Moldy Comb.

I have kept a few bees for 12 or 15 years. but for the last 8 years for bees and not for honey. I sell colonies to the greenhouses that raise cucumbers (there are about 40 houses here.) I put 20 colonies in the cellar last November, that I thought had honey enough; but 8 starved, and 2 died, and left honey, after March 1; the other 10 I sold. I think the cellar was too damp, as the comb left by those that died is very moldy. Is it safe to put 2-frame nuclei on that moldy comb? MASSACHUSETTS.

ANSWER.—There is no objection to giving moldy combs to nuclei except that they may be too slow in cleaning them up. A good way is to put them at once under strong colonies, then they will be in nice condition when needed for the nuclei.

Swarming and Nuclei Management.

1. In a strong colony of bees with 7 frames of brood, if you take a frame of brood from them will it help them, or will it make less average in the surplus honey from them?

2. To start nuclei, is it better to take six frames of brood, or two frames of brood with bees and use a division-board? ARIZONA.

ANSWERS.—1. If a colony will hold all its force without swarming, that's the thing to give results in the surplus apartment, and every frame of brood taken away would be taking something from the surplus. If a colony swarms, of course that reduces its surplus, and there might be such a thing as taking away brood to prevent swarming, but a single frame of brood taken away would have but little effect in that direction. Put it down as a basic principle that keeping the whole force of a colony together is the way to get a good yield of honey.

2. To use six frames of brood for a nucleus would be rather expensive, and is not necessary. Two frames of brood with adhering bees make a good nucleus, *providing* none of the adhering bees return to their old home. Take bees that have been queenless two or three days, and they will stay much better where put. Two nuclei can be put in the same hive, with entrances at opposite sides, a bee-tight division-board between.

Mating of a Clipt Queen.

If the queen mates with the drone while on the wing, would not a clipt queen have to be replaced this spring? SUBSCRIBER.

ANSWER.—No, a clipt queen doesn't need replacing any more than she would with whole wings; a queen mates once for life.

Queen-Excluders from Foul-Broody Hives.

In reply to a question not long ago, I advised boiling such excluders before using again. In a subsequent number I gave the opinion of the expert, Wm. McEvoy, to the effect that no boiling was necessary. Now we have a varying opinion from Editor Root, also high authority in foul brood. In any case it can do no great harm to boil. Mr. Root says, in Gleanings in Bee-Culture:

"While there is a possibility that queen-excluders in foul-broody hives *might* not carry infection to colonies in hives on which they were placed, yet I would never take any chances. I would put the whole bundle in a kettle of water and boil not less than two hours, this extent of time being necessary to kill the *spores;* for, as Mr. Cowan points out, spores are very different from microbes."

Swarming Management—Belgian Hares.

1. After a swarm issues, will shifting the old hive from one side to the other of the swarm prevent an after-swarm, or must the queen-cells be cut out?

2. When is the proper time to cut them out?

3. Where can I get the Belgian hares, and what are they worth per pair? MINNESOTA.

ANSWERS.—1. The right kind of shifting ought to prevent swarming without cutting out queen-cells. The favorite way is as follows: Hive the swarm on the old stand, setting the old hive close beside it. A week later, move the old hive to a new place. The bees will do the rest.

2. If you want to prevent swarming by cutting out cells, listen at night to hear the young queen piping. This may be as early as 6 days after swarming, but most likely later. Next morning after hearing the piping, cut out *all* queen-cells.

3. I don't know. If Belgian hares get to be popular with bee-keepers, no doubt they will be advertised in these columns.

Arranging Hives—Changing Sections—Shorter Spelling.

1. On account of space, I have my apiary arranged in rows, 14 hives in a row, 2 feet apart in the row, and the rows 18 feet apart. Would it be better to pair them so as to have each two hives 6 inches apart, and the 3 feet or so between the pairs?

2. I am using 4¼x4¼x1⅞ sections. Would you change to the Ideal, 3⅝x5x1½?

3. I like the Bee Journal best of all the bee-papers, tho I don't like the short way of spelling. I saw where a fellow had "least" (smallest) a piece of ground to run an apiary on. ALABAMA.

ANSWERS.—1. Yes, better have them in pairs with 2 or 3 inches between the two hives of each pair. Then there will be only half the chance for a queen or a worker to enter the wrong hive.

2. That cannot be answered till you find out whether the tall sections will sell better in *your* market.

3. Yes, one of the unfortunate things about our language is that the same word has often more than one meaning, as when it is said that a corn-stalk has on it two ears (organs of hearing); or poetry has so many "feet" to the line, and yet can't walk.

AMERICAN BEE JOURNAL.
ESTABLISHT IN 1861 OLDEST BEE-PAPER IN AMERICA
DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS

PUBLISHT WEEKLY BY
GEORGE W. YORK & COMPANY,
118 Michigan Street, Chicago, Ill.

[Entered at the Post-Office at Chicago as Second-Class Mail-Matter.]

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IMPORTANT NOTICES:

The Subscription Price of this journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "Dec00" on your label shows that it is paid to the end of December, 1900.

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Advertising Rates will be given upon application.

VOL. 40. MAY 31, 1900. NO. 22.

EDITORIAL COMMENTS

NOTE—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

The Weather has been as fickle and changeable as—as—the weather. During the first half of May the temperature was abnormally high some days, and after the middle of the month came March weather. Those who, trusting to a continuance of warm weather, had ventured to do a good deal in the way of spreading brood, found instead of an increase a shrinkage in the amount of brood in the hive. It is these unwelcome spells of cool weather that make the spreading of brood such a doubtful procedure. The building up of colonies has been much interfered with, but better weather will surely come. In the meantime, look out sharp for starving.

Clipping Queens' Wings seems to be gaining in popularity. The objection that a clipt queen may be lost, or get in the wrong hive, is not denied, but the clippers reply that it is better to lose the queen alone than to lose both queen and bees. And it is probably true that when the queen is lost because no one is present to watch the swarm, there would be an almost certain loss of both queen and bees with a flying queen.

Another argument in favor of clipping is that it is much easier to manage swarms with clipt queens. Mr. Doolittle declares in Gleanings in Bee-Culture, "I would rather care for three swarms whose queens have their wings clipt than for one where the queen is not clipt." He uses a Manum swarm-catcher, puts the queen in a round wire-cloth cage an inch in diameter, and four or five inches long, and while the queen is farthest away from the open end of this cage he holds the cage with the open end where 12 or 15 of the bees of the swarm will enter it as they rush from the hive; then puts the cage in the swarm-catcher, and the buzzing bees in the cage will make it easier to get all the bees into the catcher.

Some prefer to remove the old hive from its stand and put the new hive in its place for the swarm to enter, when it returns on missing its queen, allowing the queen to run in with the returning swarm. In this case the queen is caged and releast at the entrance when the bees begin to enter.

The best thing about clipt queens, according to Mr. Doolittle, comes into play when swarms unite. He says:

> "In all apiaries having more than four or five colonies, there is always sure to come a time when two or more swarms will issue together. If two or more swarms come out at once, I always use the catcher as first given, using one of the queens to secure the swarms. The other queens are caged with a few of their bees, and left in a shady place till I get all in readiness, when I place one at the entrance of each hive prepared to receive a swarm, except the hive that is to have the queen now in the catcher. I now carry the combined swarm around to the hives, placing one-half, one-third, one-fourth, etc., of the bees in front of each, according to the number in the combined swarm, letting a queen go in with each part, when the work is done. In this way it is no more trouble to manage several swarms where they come out together than it is to hive them if they were to come out singly. Thus much of the dread which used to be experienced when two or more swarms come out together is done away with."

Bee-Keeping as a Sole Business can not be recommended. When a novice with three or four colonies has a net return of $10 or $15 to the colony, the most natural thing in the world is for him to go figuring on the profit from a larger number. If $10 are to be had from one colony, of course 100 colonies will bring $1,000. That's easy. The only thing is to get the 100 colonies. But that isn't a very hard matter either. Are there not accounts of 6, 8, and 10 colonies from one in a single season? As he has done so well in surplus, surely he can do as well in increase. His 4 colonies can expand into 32, or at least 24, and at the end of two years there will be no question about the 100 colonies. But two years is too long a time to wait, and the purchase of a few colonies now will make sure of the 100 colonies at the end of the year. So he lays his plans to get out of all other business, devote himself entirely to bee-keeping, and later increase to such an extent as to have an income of several thousand dollars from the bees.

But when it comes to actual practice, things don't pan out as he had figured. The next season may be a poor one, giving neither surplus nor increase, or if the matter of increase is forced, the colonies will be so poorly developt and supplied with stores that they never see the anniversary of their birth. If he is so successful as to reach his 100, he finds that with that number he by no means secures the same average as with the original four.

The moral of which is that no one is wise to give up other business for bee-keeping until he has first made sure by actual trial for a series of years that he can at least make a living out of his bees alone.

Honey for Poverty of Blood.—Gleanings in Bee-Culture says: "An Italian bee-journal reports the case of a girl in Switzerland suffering severely from poverty of blood, and who could get no relief thru medicine. At last she tried a honey cure, which restored her to permanent health in something over a month. The treatment was as follows: Morning and evening, honey dissolved in hot milk; honey-water at will. Honey taken during the day, in all about two pounds each week."

"Doolittle Queen-Cell Cups by the Peck" is the somewhat sensational heading of an editorial in the last number of Gleanings in Bee-Culture. But there seems to be good ground for the sensation when we are told that such progress has been made that the Doolittle cell-cups can now be turned out at the rate of 2.000 in an hour. The man who has achieved this is W. H. Pridgen, who has clearly put a lot of brains into the thing. Instead of making the cups one by one, a number of pegs are fastened to a stick, and at one dip each peg gets its portion of wax. Instead of the whirling that each cell had to have to make the wax uniform on all sides—which whirling could hardly be done with more than one cell at a time—Mr. Pridgen finds that a little jerk to throw off the superfluous wax is all that is necessary.

The outcome of this wholesale sort of production will probably be that Doolittle cell-cups will be listed among regular bee-supplies at such price that no bee-keeper can afford to make them for himself. In view of such 16 to 1 steps in advance, who is ready to say that no further advance in bee-keeping need be expected?

The Weekly Budget

BITTER SWEET—the engraving on the first page—is kindly loaned us by Mr. James G. Moulton, whose fine art galleries are found at 45 East Jackson Boulevard, Chicago. Visitors in the city are always cordially invited to inspect his large stock of art productions; and then, of course, he will not object should the visitors select one or more paintings to take with them for the adornment of the walls of their homes.

* * * * *

MR. HARRY S. HOWE, of Cuba, wrote us May 15 as follows:

> "The rainy season is on here, but we still get some swarms between showers. Yesterday one came out in a heavy rain. There are four of us American bee-keepers near here, and all are just going to do it next season!"

Mr. Howe says that he is just out of the hospital, and intimates that too much bicycle, etc., in a climate like Cuba is bad for weak hearts. We trust that he may soon recover and be able to make a success of bee-keeping in his new location.

* * * * *

POST-CHECK MONEY.—Gleanings in Bee-Culture has described this new form of "money" so well, and also pointed out the great advantages to be derived therefrom, that we may as well quote what its publishers have said, as we concur most heartily in all they say in regard to it:

> Our attention has been called to a system of currency called "post-check money," which consists of fractional bills of denominations of 5, 10, 15, 25 and 50 cents of small size, and 1, 2 and 5 dollars the size of ordinary bills. These are to be used for ordinary currency in passing from hand to hand, but on one side are arranged blanks for affixing a postage stamp, and writing in the name and address of the party to whom you wish to make a remittance. Sign your own name and address. The bill then becomes a check for safe transmission thru the mails. When the party to whom it is sent receives it he acknowledges the receipt of payment in a blank provided, presents it at the post-office, and receives a fresh one in its place, which may be past as money. The advantages of this system will be very apparent to one who examines it. It makes it very convenient to send a remittance of a small amount in a way that is safe. To inclose an ordinary bill in a letter is considered rather risky. If the latter is stolen, the money contained may be used by the one who gets it, and can not be identified; whereas, with post-check money, one of these bills filled in as provided becomes as safe as an ordinary bank check or draft, and is not subject to the usual charge for collection that banks make on checks, nor to the inconvenience of going to the post-office to obtain a postal money order. The government still retains the revenue feature by stamps affixt when these bills are written upon and remitted thru the mails.

The foregoing paragraph appeared Jan. 15, and then May 15 this:

> In the Jan. 15th issue of Gleanings in Bee-Culture I called attention in this department to a proposed form of currency called "post-check" money, briefly describing it and calling attention to a few of the advantages that would be derived from its use. A bill was introduced March 16, 1900, in both houses of Congress, under the title, "A bill to prevent robbing the mail, to provide a safer and easier method of sending money by mail, and to increase the postal revenues."
>
> We are constantly annoyed by losses of small amounts remitted to us in the mail by present methods. Very often during the warm summer weather we receive postage-stamps all stuck fast to the letter accompanying, or to each other, and it is about all they are worth to soak them off, regum, and use them. If you could appreciate one-tenth as much as we do the great convenience and saving this post-check money would secure to the great mass of the people who have to transact some of their business by mail, you would sit down at once and write a letter to your United States Senators, urging the importance of passing at an early date Senate bill No. 3643. And you will write another letter to the Representative from your district in Congress, urging his support of House bill No. 9632, the "Post-check" bill. In order that you may become more familiar with the bill and the post-check money it proposes to provide, the great convenience it will furnish the mass of the people, send a stamp to C. W. Post, Battle Creek, Mich., with request for pamphlet on post-check money; ask for several if you can place them in the hands of those who will be interested, and would be likely to urge the passage of the bill by a personal letter to your Representatives in Congress. Do not put this off, but write at once. Remember that the interests of the express companies in the fees from their money-order business may induce them to work in opposition to the bill, and the active support of the people is required, not only to offset this opposition, but to bring such pressure upon your Representatives as will make them feel that the people are back of this measure, and desire its enactment into law. It may also assist the cause to write to Postmaster-General Smith, and to the Secretary of the Treasury, Lyman J. Gage, requesting them to use their influence in support of the post-check bill now before Congress.

* * * * *

R. HORNIK, a merchant of Beuthen, Upper Silesia, had in stock 1,300 kilograms of honeyed syrup, which he sold for pure. Taken before a tribunal he was fined $75 for violating the law concerning adulteration of food. In Schleswig-Holstein the inspectors have taken not less than eight samples of honey adulterated with sugar syrup. The editor says, speaking for his own country, Belgium:

> "We have also a law designed to repress the adulteration of honey; but the eye of the inspectors seems to be obstinately closed in regard to the introduction into the country of a lot of mixtures that have no honey about them but the name."—Gleanings in Bee-Culture.

* * * * *

THE TRANSVAAL AND ORANGE FREE STATE Governments have prohibited, under severe penalties, the sale of anything, not the natural product of the bee, under the name of honey. Syrups may be sold as such as long as they are not called honey.—Gleanings in Bee-Culture.

Belgian Hare Breeding is the title of a pamphlet just publisht, containing 10 chapters on "Breeding the Belgian Hare." Price, 25 cents, postpaid. It covers the subjects of Breeding, Feeding, Houses and Hutches, Diseases, Methods of Serving for the Table, etc. It is a practical and helpful treatise for the amateur breeder. (See Prof. Cook's article on page 292.) For sale at the office of the American Bee Journal. For $1.10 we will send the Bee Journal for a year and the 32-page pamphlet on "Belgian Hare Breeding."

GENERAL ITEMS

A Happy Philosopher.

BY R. F. GREENE.

I like the weather rainy, an' I like the weather dry,
I like the world an' like the plan the Ruler runs it by!
Ther's mebbe droughty seasons in some fair and farmin' spot,
While a streak of too wet weather blights another, like as not;
But I so love earth's roses that the little thorns don't hurt,
An' life to me is somethin' more than drudgery and dirt;
God turned my taste to sweetness, so I shun the bitter lees,
An' find so much of honey I'm a-robbin' of the bees.

A happy life's dependent not on gumption or on grit,
But jes' the plain philosophy of make-the-best-of-it!
Of course, I ain't denyin' Sorrow's stalkin' thru the land,
But her sister, Joy, is with her, an' a-holdin' of her hand.
So write me down as happy, in the summer, spring, or fall,
An' even storms o'winter doesn't ice the blossoms all.
So I jes' keep on a-huntin' in the fragrance or the freeze,
An' I find so much of honey I'm a-robbin' of the bees.

—Youth's Companion.

Spraying Fruit = Trees While in Bloom.—The following letter, just received from Prof. W. J. Green, of the Ohio Experiment Station, will explain itself:

Mr. A. I. Root:—I enclose a letter from the Farmer's Guide; also a clipping from that paper, which was sent me by the editor. I knew some time ago that there were people who believe that spraying trees when in bloom is more beneficial than just before or just after, but I was not aware that any one would give such advice as Mr. Stahl does. Mr. Stahl's position is such that he can do great harm in this way, because he has numerous correspondents, and it is quite likely that he will induce a great many to spray trees when in bloom.

I was present at the New York State Horticultural Society meeting last winter, and heard the statement made that there were fruit-growers in the State who intended to spray their trees when in bloom, and pay the penalty if fined, as there is a law in that State against spraying trees when in bloom. If this sentiment becomes at all universal among fruit-growers it will work great injury, not only to bee-keepers, but to fruit-growers as well.

May 9. W. J. Green.

The letter referred to from the Guide Publishing Company, of May 7, is as follows:

Horticulturist, Experiment Station,
Wooster, Ohio.

Dear Sir:—Herewith find page of last week's issue of The Farmer's Guide, in which we criticise the advice given by William Stahl, of Quincy, Ill., on spraying fruit-trees in full bloom. We are in receipt of a letter from Mr. Stahl in response to our criticism in which he says:

> "I regret that you are just a little behind the times in giving your advice. Spraying in full bloom is nothing new to me, as I have been experimenting in this direction for several years. My own trees have not only been sprayed once, but have been sprayed twice, and I have most excellent prospects. It may be well to state, in connection herewith, that, in the grape-growing section of Nauvoo, which is only 50 miles north of here, and consists of 500 acres, almost every acre will be sprayed this year in full bloom."

Mr. Stahl enclosed a copy of a letter from Mr. J. H. Fishel, a fruit-grower of Grant Co., Ind., in which he says that he has been spraying in full bloom for 3 years, and that his fruit is 90 percent perfect, and that he has plenty. He intimates that he has kept his plan a secret, and adds:

> "I am aware that the idea prevails that it kills honey-bees, and I have found, also, that it is not necessary to have bees to fertilize the bloom of fruit. I have been frequently askt why I have such perfect fruit and so much of it when others have scarcely any, and what they have is not worth anything. I do not tell my secret, for fear of being blamed of killing bees."

Now, if we are behind the times we want to know it and to know the safe, sure, and good way to catch up. If spraying in full bloom is better than otherwise, if bees are not needed in fertilizing and pollenizing, and that it is right to kill them in secret, or otherwise, we should like to know it.

We are addressing this letter to 7 experiment stations besides yours, and await the replies with considerable interest. The Guide Publishing Co.

May, 1900.

The clipping from the Guide, which we believe to be absolutely correct, is as follows:

A farmer came into The Guide sanctum Saturday, bearing a look of unusual disgust. He had recently ordered one of Stahl's spray-pumps, and with it had received a letter from the manufacturer vouchsafing to him a great secret, which is furnisht with every spray-pump upon request, which secret is as follows:

"Give your vines and trees one additional spraying this year when in full bloom, using for this spraying Bordeaux mixture, and adding thereto Paris green in the proportion of one pound to 160 gallons of Bordeaux mixture."

The manufacturer states that, where the spraying was done where the trees were in full bloom, the results were simply wonderful. If the sprayer manufactured and sold is of as much doubtful utility as the above advice is unsound, then would we hesitate to buy it or advise its purchase. Any benefits that spraying might have on the fruit while the trees are in full bloom, over omitting the spraying at this time, is surely overcome by the destruction of the fruit-growers' best friends, the bees. Spraying with Paris green at the rate of one pound to 200 gallons of water is sufficient to destroy injurious insects; but when the amount of Paris green is increast, the destruction of the honey-bees and other pollenizing insects is enhanced. This is so plainly recognized in Michigan, New York, and other States, that laws have been past forbidding the use of poison-

California Queens.
OF PURE ITALIAN STOCK.
(THREE-BANDED.)
No other bees within a radius of TEN MILES. Eight years' experience in practical bee-keeping. Untested Queens, 90 cts. each; $9 per doz. Discounts after July 1. Write for price-list.
18A13t H. L. WEEMS, Hanford, Calif.
Please mention Bee Journal when writing.

POULTRY PAPER Twenty or more pages each month, nicely illustrated and UP-TO-DATE. Four months trial subscription 10 cents. One year 25 cents. Sample copy Free. Mention this paper. Inland Poultry Journal, Indianapolis, Ind.

EGGS From Barred PLYMOUTH ROCKS Thorobred, Fine Plumaged Fowls. Farm Raised—75c per dozen.
MRS. L. C. AXTELL, Roseville, Ill.
15Atf Please mention the Bee Journal.

Queen-Clipping Device Free....
The Monette Queen-Clipping Device is a fine thing for use in catching and clipping Queens wings. We mail it for 25 cents; or will send it FREE as a premium for sending us ONE NEW subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,
GEORGE W. YORK & COMPANY,
118 Michigan St., Chicago, Ill.

M. H. HUNT & SON,
SELL ROOT'S GOODS AT ROOT'S PRICES.
Our inducements are first-class goods, cheap freight rates, and prompt shipments. Send for catalog. Bell Branch, Mich.

QUEENS!
One Untested Queen.....$ .80
One Tested Queen 1.00
One Select Tested Queen 1.25
One Breeder.............. 2.00
One-Comb Nucleus....... 1.00
All Queens ready to mail on receipt of the order.
Breeders are from last season's rearing.
Send for price-list of Queens by the dozen.
J. L. STRONG,
14Atf CLARINDA, Page Co., IOWA.
Please mention Bee Journal when writing.

Italian Queens $1.00 during May and June. Nothing sent out but beautiful Queens, from our best workers. Safe arrival guaranteed. D. J. BLOCHER,
22A4t Pearl City, Ill.

GINSENG We are Headquarters for Seed & Plants.
Valuable book about it, telling how to grow thousands of dollars worth, what used for and who is growing it. Sent for 10c
AMERICAN GINSENG GARDENS, ROSE HILL, New York.
20E8t Mention the American Bee Journal.

Rocky Mountain Bee-Plant Seed!
(*Cleome integrifolia*)
...FREE AS A PREMIUM...
The A B C of Bee-Culture says of it: "This is a beautiful plant for the flower-garden, to say nothing of the honey it produces. It grows from two to three feet in hight, and bears large clusters of bright pink flowers. It grows naturally on the Rocky Mountains, and in Colorado, where it is said to furnish large quantities of honey."
We have a few pounds of this Cleome seed, and offer to mail a ¼-pound package as a premium for sending us ONE NEW subscriber to the American Bee Journal, with $1.00; or ¼ pound by mail for 40 cents.
GEORGE W. YORK & CO.
118 Michigan St., CHICAGO, ILL.

Root's Column

GLEANINGS IN BEE-CULTURE.

THERE are some things every bee-keeper must have, and we believe no one can expect to succeed as a bee-keeper without reading one or more good papers devoted to this industry. Gleanings in Bee-Culture will not only keep you posted on all important topics but is always on the alert to bring to its readers' notice new methods proposed by able writers, new implements for labor saving, and everything by which a larger and better crop of honey can be secured. We believe it pays to use a superior quality of goods, and there is no doubt but what improvement can be made in the appearance of honey by use of the BEST methods. Gleanings tells you all these and tells you where to market your honey after you get it, by our HONEY COLUMN. Our market reports are ALWAYS UP-to-date, and can be DEPENDED upon. We know of many bee-keepers losing a good crop of honey by sending it to some irresponsible party. Avoid this by subscribing to Gleanings and getting the best MARKET REPORTS.

Some bee-keepers like to take a bee-journal during the honey season only; some want to try it a few months before subscribing for a longer time. To accommodate such we offer Gleanings in Bee-Culture SIX months for ONLY 25 CENTS. There will be many important things brought out in its columns during the coming six months. Do not fail to send an order at once for this time.

If you wish to subscribe for a whole year, we shall be glad to have you avail yourselves of any of the following:

Special Offers for New Subscribers.

Offer No. 11.

Gleanings in Bee-Culture, 1 yr........	$1.00	
The Prairie Farmer, 1 yr..............	1.00	All
The Poultry-Keeper, 1 yr..............	.50	for
		$1.00
Regular price of all................	$2.50	

(If you wish we can substitute the Reliable Poultry Journal for Poultry Keeper.)

Offer No. 13.

Gleanings in Bee-Culture, 1 yr........	$1.00	
The Prairie Farmer, 1 yr..............	1.00	All
McClure's Magazine, 1 yr..............	1.00	for
		$1.75
Regular price of all	$3.00	

(If you wish we can substitute Cosmopolitan Magazine for McClure's.)

Offer No. 14.

Gleanings in Bee-Culture, 1 yr........	$1.00	
The ABC of Bee-Culture, 1 copy......	1.20	All
The Prairie Farmer, 1 yr..............	1.00	for
The Farm and Home, 1 yr............	.50	$2.00
Regular price of all................	$3.70	

Offer No. 15.

Gleanings in Bee-Culture, 1 yr........	$1 00	
Farm and Home, 1 yr................	.50	All
American Poultry Advocate, 1 yr.....	.25	for
Green's Fruit Grower, 1 yr............	.50	$1.00
Regular price of all................	$2.25	

Offer No. 22.—For $1.00 we will send GLEANINGS for 1 year and an Untested Italian Queen valued at 75 cents; but at this low price we reserve the right to send queen some time in July when we have a choice supply.

Offer No. 25.—For $1.00 we will send GLEANINGS one year and a Clark Smoker, postage 20 cents extra. Or, for $1.25 we will send the Corneil Smoker, postage 25 cents extra.

THE A. I. ROOT CO., Medina, Ohio.

ous spraying mixtures while fruit-trees are in bloom.

We have gone thru the bulletins of the experiment stations on file in this office, and do not find in any of them a recommendation to spray while the trees are in full bloom. On the contrary, we find advice to *never spray a fruit when it is in blossom*. This we find italicized in Bulletin 142, Cornell University Experiment Station, Ithaca, N. Y. Following the above words are: "You can reach the insect and fungous enemies just as effectively, and in some cases more so, either just before or just after the trees bloom."

The foregoing bulletin is by Prof. M. V. Slingerland, one of the best entomologists in this country, and what he says upon the subject is reliable, and is at variance with the advice given by the manufacturer of the Stahl sprayer.

This man Wm. Stahl, while prominent as an advertiser, may not know very much about the subject of spraying. To tell the editor of The Farmers' Guide, and practically say to all experiment stations that they are "just a little behind the times," is as egotistical as it is impertinent. It is to be regretted that the State of Illinois does not have a law against the spraying of fruit. Such laws are already in force in Michigan, New York, Colorado, and bills have been or are being introduced before many of the State legislatures. When I was in New York recently I learned that the most progressive fruit-growers are not in favor of spraying during fruit-bloom. They state that it is not only unnecessary, but that it actually kills their very best friends, the bees. Of course, there are a few who are of the contrary way of thinking, but they do not represent the up-to-date growers.—Gleanings in Bee-Culture.

Bees Building Up Well.

My bees wintered well, are building up well, and there is clover enough to make at least a good prospect.

HARRY LATHROP.

Green Co., Wis., May 19.

Heavy Loss in Wintering.

There was great loss in bees in this section last winter. I have only 6 colonies left out of over 50. There is more than ⅞ of the bees dead in this locality. There is a bee-keeper near me who has only one colony left out of 48.

I have been working for a day or two cleaning out the hives and frames, and there is no dead brood in the frames but quite a lot of honey. Some hives have from 25 to 30 pounds in them. The top-bars and the sides are all daubed up as if some one had turned black molasses on them, and some of them do not smell the best. My bee-yard makes me think of the cemetery just across the road from me—lots of monuments but no life. The empty hives are there to mark the place of a once active city of bees. It would be enough to discourage a novice, but I have had the experience once before,

DITTMER'S FOUNDATION Wholesale and Retail

This foundation is made by an absolutely non-dipping process, thereby producing a perfectly clear and pliable foundation that retains the odor and color of beeswax, and is free from dirt.

Working wax into foundation for cash, a specialty. Write for samples and prices.

A full line of Supplies at the very lowest prices, and in any quantity. Best quality and prompt shipment. Send for large, illustrated catalog.

GUS. DITTMER, Augusta, Wis.

Beeswax Wanted.

Please mention Bee Journal when writing.

HATCH with the perfect, self-regulating, lowest priced first class hatcher—the **EXCELSIOR Incubator**

Hatches the largest per cent. of fertile eggs at the lowest cost.

Circulars free. Send 6c. for Illus. Catalog.

GEO. H. STAHL, Quincy, Ill.

44A26t Please mention the Bee Journal.

100 COLONIES OF ITALIAN AND CARNIOLAN BEES FOR SALE; all in new movable-frame hives. Send stamp for price-list.

WM. J. HEALY.

18A5t MINERAL POINT, Iowa Co., WIS.

Please mention Bee Journal when writing.

PATENT WIRED COMB FOUNDATION

Has no Sag in Brood-Frames.

Thin Flat-Bottom Foundation

Has no Fishbone in the Surplus Honey.

Being the cleanest is usually workt the quickest of any foundation made.

J. A. VAN DEUSEN,
Sole Manufacturer,
Sprout Brook, Montgomery Co., N.Y.

BEE-SUPPLIES!

Root's Goods at Root's Prices

POUDER'S HONEY-JARS and everything used by bee-keepers. Prompt Service—low freight rate. Catalog free. WALTER S. POUDER,
512 Mass. Ave., INDIANAPOLIS, IND.

Please mention Bee Journal when writing.

IF YOU WANT THE **BEE-BOOK**

That covers the whole Apicultural Field more completely than any other publisht, send $1.25 to Prof. A. J. Cook, Claremont, Calif., for his

Bee-Keepers' Guide.

Liberal Discounts to the Trade.

Here we are to the front for 1900 with the NEW

CHAMPION CHAFF-HIVE,

a comfortable home for the bees in summer and winter. We also carry a **complete line of other SUPPLIES.**

Catalog free. **R. H. SCHMIDT & CO.**
Sheboygan, Wisconsin.

Please mention Bee Journal when writing.

1860 **Adel Queens** 1900

Practically non-swarming and non-stinging; cap honey snow-white and solid; 5 banded bees and great workers. Tested Queens, each, $1.00. No foul brood, pickled brood, black brood, nor any other disease in my apiary. 40th annual catalog giving description of bees, now ready.

20Atf HENRY ALLEY, Wenham, Mass.

Please mention Bee Journal when writing.

BEE-KEEPERS: If you want your supplies to arrive at your railroad station in neat and perfect condition, free from dirt and damage ordinarily resulting from railroad handling; and if you want your orders filled promptly with the very finest goods in the market, send to

G. B. Lewis Co., Watertown, Wis.
U. S. A.

THOUSANDS OF BEE-HIVES, MILLIONS OF SECTIONS READY FOR PROMPT SHIPMENT.

Lewis Foundation Fasteners are selling like hot-cakes. Customers who have received one of these new machines pronounce it the finest, and write us that it is worth more than our price, which is only ONE DOLLAR, without lamp.

BRANCHES:
G. B. Lewis Co, 19 So. Alabama St., Indianapolis, Ind.
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AGENCIES:
L. C. Woodman............Grand Rapids, Mich.
Fred Foulger & Sons...........Ogden, Utah.
E. T. Abbott, St. Joseph, Missouri.
Special Southwestern Agent.

SEND FOR CATALOG.

Please mention Bee Journal when writing.

FREE OX-BLOOD TABLETS FOR THIN PEOPLE. Nervousness, Rheumatism, Female Disease. 3 weeks' treatment free for 10 cents postage. Look for our ad on this page next week.
W. A. HENDERSON CO.,
18E2t *Masonic Building, Des Moines, Iowa.*
Please mention Bee Journal when writing.

The Novelty Pocket-Knife.

Your Name and Address on one side—Three Bees on the other side.

HOWARD M. MELBEE,
HONEYVILLE, O.

[This Cut is the Full Size of the Knife.]

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your Pocket-Knife will serve as an identifier; and in case of death, your relatives will at once be notified of the accident.

How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

How to Get this Valuable Knife.—We send it postpaid for $1 10, or give it as a Premium to the one sending us three new subscribers to the Bee Journal (with $3.00.) We will club the Novelty Knife and the Bee Journal for one year, both for $1.90.

GEORGE W. YORK & CO., 118 Mich. St., Chicago, Ill.

☞Please allow about two weeks for your knife order to be filled.

ALBINO QUEENS If you want the most prolific Queens—If you want the gentlest Bees—If you want the best honey-gatherers you ever saw—try my Albinos. Untested Queens in April, $1.00; Tested, $1.50.
12A26t J. D. GIVENS, LISBON, TEX.

Queens UNTESTED ITALIAN, 70 cents each; tested, $1 each. Queens large, yellow and prolific. Circular free.
21Att Address, E. W. HAAG, Canton, Ohio.

Marshfield Manufacturing Company.

Our specialty is making SECTIONS and they are the best in the market. Wisconsin BASSWOOD is the right kind for them. We have a full line of BEE-SUPPLIES. Write for free illustrated catalog and price-list.

MARSHFIELD MANUFACTURING CO., Marshfield, Wis.

Please Mention the Bee Journal when writing Advertisers.

but this winter has been the worst for bees ever known here.

The bees did not have a flight all winter. Two or three bee-keepers here lost every colony they had.

I hardly know what to do with my frames of comb and honey to keep them from the moths. I could probably take 200 or 300 pounds of honey from the frames and melt-up the rest into wax. I would like to ask what would be the best to do with them? Perhaps some one will give good advice thru the American Bee Journal, and if any one can do so I would like to have him say why there should be such a loss, with so much stores of honey left in the hives. Some or most of the hives had a large amount of bees in them, but no brood in the combs.

The spring has been very backward and cold, but for the last two days it has been up into the 90's. Apple-trees are just beginning to bloom. I have a few frames with honey outside for the few bees that I have left, to work on, but they don't seem to care much for them. I have been examining them and they have a nice lot of brood, and seem to be building up quite fast.

I see good reports from some localities as to bees wintering well. I am glad, for I love the honey-bee. I like to see them work.

The American Bee Journal meets me at the post-office every Friday night, and it is received with much pleasure; and I hope by its help to get started in the bee-business again.

Geo. H. Adkins.
Essex Co., N. Y., May 17.

Wintering Reduced to a Science.

Never since I have been a bee-keeper have my bees wintered so well as the past winter. They came thru without the loss of a single colony. Every colony is boiling over with bees. I surely have reduced the wintering of bees to a science. I have not lost 5 colonies during the winter since I have been a bee-keeper.

B. T. Stone.
Preston Co., W. Va.

A Notable Early Report.

Bees came thru the winter in excellent condition. On the third of March one-half depth supers containing some drone-brood were put on the colonies having the best queens; and then the winter packing was replaced. The object of putting them on at this date was to get drones early in the season. By the first of May these colonies were well stockt with drones.

On May 5th the winter packing was removed, and on examination the supers put on in March were well filled with honey collected from the maple, and especially the poplar, which bloomed about April 25th. Four colonies were so crowded with bees that it was thought best to take their brood from them. The brood-nests containing 16 full-depth frames were removed and others of the same dimensions were given them, with the filled super and a second one for the fruit-bloom. So the artificial swarms had 16 full-depth frames and 16 half-depth.

On May 16th we commenced to extract the spring harvest. The supers on the four above-mentioned hives weighed respectively 52, 46, 48 and 47

The Bee-Keeper's Guide

Or, Manual of the Apiary,

—BY—

PROF. A. J. COOK.

460 Pages—16th (1899) Edition—18th Thousand—$1.25 postpaid.

A description of the book here is quite unnecessary—it is simply the most complete scientific and practical bee-book publisht to-day. Fully illustrated, and all written in the most fascinating style. The author is also too well-known to the whole bee-world to require any introduction. No bee-keeper is fully equipt, or his library complete, without THE BEE-KEEPERS' GUIDE.

This 16th and latest edition of Prof. Cook's magnificent book of 460 pages, in neat and substantial cloth binding, we propose to GIVE AWAY to our present subscribers, for the work of getting NEW subscribers for the American Bee Journal.

Given for TWO New Subscribers.

The following offer is made to PRESENT subscribers only, and no premium is also given to the two NEW subscribers—simply the Bee Journal for one year:

Send us TWO NEW SUBSCRIBERS to the Bee Journal (with $2.00), and we will mail you a copy of Prof. Cook's book FREE as a premium. Prof. Cook's book alone sent for $1.25, or we club it with the Bee Journal for a year—both for only $1.75. But surely anybody can get only TWO NEW SUBSCRIBERS to the Bee Journal for a year, and thus get the book as a premium. Let every body try for it. Will YOU have one?

GEORGE W. YORK & CO.,
118 Michigan Street, - CHICAGO, ILL.

HONEY MONEY results from the best care of the bees. That results from the use of the best Apiary appliances. **THE DOVE-TAILED HIVE** shown here is one of special merit. Equipped with **Super Brood chamber, section holder, scalloped wood separator and flat cover.** We make and carry in stock a full line of bee supplies. Can supply every want. Illustrated catalogue **FREE**
INTERSTATE MANFG. CO., Box 10, HUDSON, WIS.

pounds, and the supers of the second-class colonies varied from about 26 to 31 pounds.

On account of the cold northeast winds in the latter part of April and the first part of May, this season was not so favorable for storing honey as the preceding one had been.

In making the artificial, or divided swarms, it was necessary to lift out all the frames of one hive to find the queen, when it was observed that she had 14 frames of brood and eggs, which was thought something unusual before fruit-bloom; but the queen that had the strongest field-force and stored the most honey is one that I bought in the southern part of Indiana, in August, 1896. The one from whom I bought her remarkt in his letter that she was a "fine specimen, worth 5 times 50 cents. She is one year old." She ruled her colony prosperously till last fall, when I took her out and gave her to an after-swarm that had lost their queen. She is clipt, and is also a notable queen, so I cannot be mistaken either in her age or identity. Such excellent returns from a 5-year-old queen is thought to be notable.

To-day bees are working on raspberry and sundry other blooms.

Man may labor, but God gives the increase. B. J. CHRYSOSTOM.
St. Joseph Co., Ind., May 20.

Good Report for Last Season.

My report for 1899 is as follows: I started in the spring with about 200 colonies in fair condition. There was no honey-flow till the latter part of July, when heartsease commenced to yield nectar. August and part of September were fine. My honey crop was about 6,000 pounds of comb honey and 3,500 of extracted. All was sold long ago, and I got about $11.00 for it.

Nov. 22, 1899, I put in 225 colonies, and took out 225 all alive, April 15 to

$5.00 per month will pay for medical treatment for any reader of the American Bee Journal. This offer is good for 3 months ONLY—from May 1 to Aug. 1. Dr. Peiro makes this special offer to test the virtue of small price for best medical services. Reply AT ONCE.

DR. PEIRO.
34 Central Music Hall, CHICAGO.

Please mention Bee Journal when writing.

Yellow Sweet Clover Seed

WE HAVE IT AT LAST!

We have finally succeeded in getting a SMALL quantity of the seed of the YELLOW variety of sweet clover. This kind blooms from two to four weeks earlier than the common or white variety of sweet clover. It also grows much shorter, only about two feet in hight. It is as much visited by the bees as the white, and usually comes into bloom ahead of white clover and basswood. We offer the seed as a premium

A QUARTER POUND FOR SENDING ONE NEW SUBSCRIPTION.

So long as it lasts, we will mail a quarter pound of the seed to a regular paid-up subscriber who sends us ONE NEW subscriber for the American Bee Journal one year, with $1.00; or ¼ pound by mail for 30 cents.

We have been trying for years to secure this seed, and finally succeeded in getting it. It is new seed, gathered last season by an old personal friend of ours, so we know it is all right. But we have only a small supply. When nearly out we will mention it.

GEORGE W. YORK & CO.,
118 Michigan St., - CHICAGO, ILL.

FOR SALE—$2,000

The BEST FAMILY TRADE in Honey and Maple Syrup in U. S. A.

Best Clover and Basswood Honey was sold for 25 cents a pound past winter.

Residence telephone connecting with 5,000 other residence 'phones.

Personal introduction given to about 2,000 patrons.

Refer to Editor of American Bee Journal.

Address, X Y Z, care American Bee Journal.

Please mention Bee Journal when writing.

ARE YOU FULL OF GINGER? If you want health and vigor, good appetite and sound sleep, take **LAXATIVE NERVO-VITAL TABLETS,** the quick and safe cure for Constipation, Nervous Dyspepsia, Insomnia, Nervous Affections, the "Blues" and all attendant evils. It aids digestion, purifies the blood, strengthens the nerves, improves the appetite, induces sweet sleep, tones up the whole system and makes you a new creature. It not only makes you *feel* well, it makes you *really* well. It gives you that vim and vigor which makes life worth living.

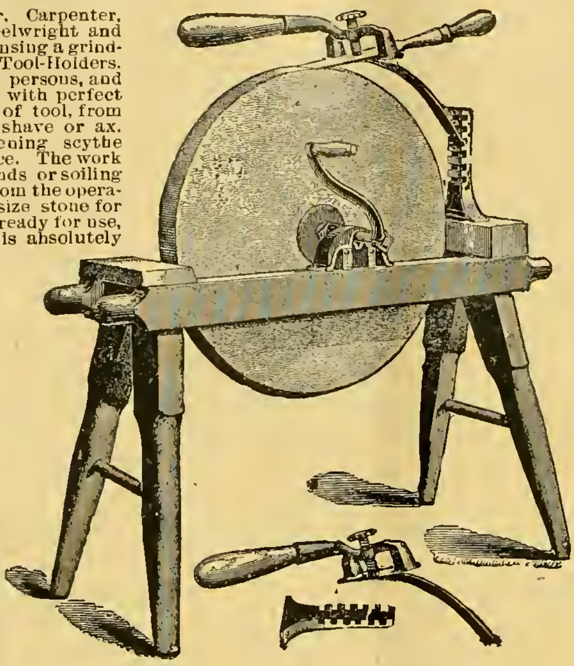
LAXATIVE NERVO-VITAL TABLETS

It contains no narcotics nor bromides nor other injurious drugs. We give the formula with every box. You know exactly what you are taking. Originally put up for physicians' use. Ask your druggist for a **FREE SAMPLE.** If he hasn't it, don't take a substitute, but send us a stamp for our book on "Health" and we will send you a free sample, sufficient for you to try it and test its merits to your own satisfaction. *Isn't it worth trying free?* It positively cures. Price 10c and 25c per box. Don't delay sending.

The Modern Remedy Co., Kewanee, Ill.

A HANDY TOOL-HOLDER!

Sent by Express, for $1.50; or with the Bee Journal one year—both for $2.00.



Every Manufacturer, Miller, Carpenter, Cabinet Maker, Machinist, Wheelwright and Quarryman, Farmer, or any one using a grindstone, should have one of these Tool-Holders. One boy can do the work of two persons, and grind much faster, easier and with perfect accuracy. Will hold any kind of tool, from the smallest chisel to a draw shave or ax. Extra attachment for sharpening scythe blades included in the above price. The work is done without wetting the hands or soiling the clothes, as the water flows from the operator. It can be attached to any size stone for hand or steam power, is always ready for use, nothing to get out of order, and is absolutely worth **100 times its cost.**

No farm is well-equipped unless it has a Tool-Holder. Pays for itself in a short time.

How to Use the Holder.

Directions.—The Tool is fastened securely in the Holder by a set-screw and can be ground to any desired bevel by inserting the arm of the Holder into a higher or lower notch of the standard. While turning the crank with the right hand, the left rests on an steadies the Holder; the Tool is moved to the right or left across the stone, or examined while grinding, as readily and in the same way as if held in the hands.

For grinding **Round - Edge Tools,** the holes in the standard are used instead of the notches.

Address, **GEORGE W. YORK & CO.** **CHICAGO, ILL.**

The Mississippi Valley Democrat
—AND—
Journal of Agriculture,
ST. LOUIS MO.

A wide-awake, practical Western paper for wide-awake, practical Western farmers, stock-raisers, poultry people and fruit-growers, to learn the science of breeding, feeding and management. Special departments for horses, cattle, hogs, sheep, poultry and dairy. No farmer can afford to do without it.

It stands for American farmers and producers. It is the leading exponent of agriculture as a business, and at the same time the champion of the Agricultural States and the producer in politics. **Subscription, One Dollar a Year.**

☞ **Write for Sample Copy**

Please mention Bee Journal when writing.

Watered Stock, Common or Preferred,
don't go through Page Fences. See! It's no Trust.
PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.

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FREE FOR A MONTH ....

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has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.

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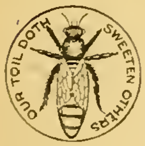
OUR TOIL DOTH SWEETEN OTHERS

OUR TOIL DOTH SWEETEN OTHERS

For sending us **ONE NEW SUBSCRIBER** to the Bee Journal for the balance of this year, with **50 cents,** we will mail you **FOUR** of these pretty buttons for wearing on the coat-lapel. (You can wear one and give the others to the children.) The queen has a golden tinge. This offer is made only to our present regular subscribers.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate, it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

Prices of Buttons alone, postpaid: One button, 8 cts.; 2 buttons, 6 cts. each; 5 or more, 5 cts. each. (Stamps taken.) Address,

GEORGE W. YORK & CO., 118 Michigan St., CHICAGO.

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18, only 3 or 4 being queenless. All came out very strong, and gathered more honey in April than I ever knew them to do before in all my bee-keeping experience. Willow and box-elder yielded more honey than I ever saw. Bees gained as high as 4 pounds a day on willow in April. They are in very fine shape now, ready to swarm. The first swarm I heard of in May was on May 12. The prospects are fine now for a crop this year. We had a fine rain last night. N. Staininger.
Cedar Co., Iowa, May 19.

Good Prospects.

My bees wintered well and are doing nicely in building up. The prospect for honey in this locality is very good, and I hope we will not be disappointed.
Herman L. Gloege.
Greene Co., Wis., May 20.

Good Honey Prospects—Honey-Dew.

The prospects for a good honey crop are very fine here in North Alabama. For the past 20 days there has been one continuous flow from poplar. This poplar honey is well tasted, but rather dark. June brings us the nice honey—basswood, sumac, etc.—almost white, and very mild.

I had 43 colonies, spring count, and have increast by natural swarming to 66. I will get a ton of comb honey. That amount always satisfies me, as it brings $250 at the apiary, and I hardly miss the time from the store attending to them.

We are not as adverse to honey-dew as some of our friends in the North. We are always glad when it comes. There is a good deal more "rabbit" about it all being "bug-juice" than you heard there was. Most of those insects seen on the leaves are there on the same mission the bees are.
R. V. Goss.
Walker Co., Ala., May 12.

Bees Quite Strong—Swarming.

I wintered 147 colonies of bees in the cellar, and lost only two; but after I took them out of the cellar I doubled them down to 115. They are in better shape than I ever had them before.

Here is something that I wish some of the bee-keepers would try:

When a colony swarms hive them on the old stand, according to the Heddon method; leave the supers on the old hive, and after the young queen hatches out and kills all her sisters, change hives again. That is, move

Bee-Supplies!

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the old hive back to where it was first, and the new hive where the old one was. Probably Mr. Heddon will try it and report results. WM. KERNAN.

Sullivan Co., Pa., May 19.

Wintered Well—Early Swarming.

Bees have increast wonderfully fast during fruit-bloom, and nearly all colonies are on the verge of swarming. I had two large swarms May 13. The prospect is not very bright for a good honey-year, as the white clover froze out a good deal. Well, we have the bees now, if it does come.

CHAUNCEY REYNOLDS.

Sandusky Co., Ohio, May 17.

Texas.—The Central Texas Bee-Keepers' Association convenes in seventh annual convention, at Hutto, Tex., July 12 and 13, 1900. All are cordially invited to attend. Excursion rates, and no hotel bills to pay.

Hunter, Tex. LOUIS SCHOLL, Sec.

IN THE LAKE COUNTRY

of Northern Illinois, Wisconsin, Minnesota and Michigan, there are hundreds of the most charming Summer Resorts awaiting the arrival of thousands of tourists from the South and East.

Among the list of near-by places are Fox Lake, Delavan, Lauderdale, Waukesha, Oconomowoc, Palmyra, The Dells at Kilbourn, Elkhart and Madison, while a little further off are Minocqua, Star Lake, Frontenac, White Bear, Minnetonka and Marquette on Lake Superior.

For pamphlet of "Summer Homes for 1900," or for copy of our handsomely illustrated summer book, entitled, "In the Lake Country," apply to nearest ticket agent or address with 4 cents in postage, Geo. H. Heafford, General Passenger Agent, Old Colony Building, Chicago, Ill. 20A3t

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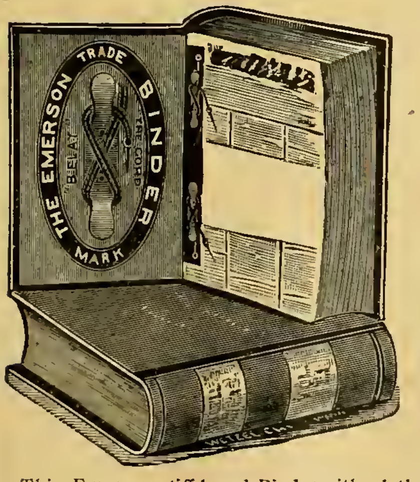
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This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

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George W. York & Co. 118 Mich. St. Chicago.

Bees and Honey, or Management of an Apiary for Pleasure and Profit, by Thomas G. Newman.—It is nicely illustrated, contains 160 pages, beautifully printed in the highest style of the art, and bound in cloth, gold-lettered. Price, in cloth, 75 cents; in paper, 50 cents.

Langstroth on the Honey-Bee, revised by Dadant.—This classic in bee-culture has been entirely re-written, and is fully illustrated. It treats of everything relating to bees and bee-keeping. No apiarian library is complete without this standard work by Rev. L. L. Langstroth—the Father of American Bee-Culture. It has 520 pages, bound in cloth. Price, $1.25.

Bee-Keepers' Guide, or Manual of the Apiary, by Prof. A. J. Cook, of the Michigan Agricultural College.—This book is not only instructive and helpful as a guide in bee-keeping, but is interesting and thoroly practical and scientific. It contains a full delineation of the anatomy and physiology of bees. 460 pages, bound in cloth and fully illustrated. Price, $1.25.

Scientific Queen-Rearing, as Practically Applied, by G. M. Doolittle.—A method by which the very best of queen-bees are reared in perfect accord with Nature's way. Bound in cloth and illustrated. Price, $1.00.

A B C of Bee-Culture, by A. I. Root.—A cyclopædia of 400 pages, describing everything pertaining to the care of the honey-bees. Contains 300 engravings. It was written especially for beginners. Bound in cloth. Price, $1.20.

Advanced Bee-Culture, Its Methods and Management, by W. Z. Hutchinson.—The author of this work is a practical and entertaining writer. You should read his book; 90 pages, bound in paper, and illustrated. Price, 50 cents.

Rational Bee-Keeping, by Dr. John Dzierzon.—This is a translation of his latest German book on bee-culture. It has 350 pages, bound in paper covers, $1.00.

Bienen-Kultur, by Thos. G Newman.—This is a German translation of the principal portion of the book called "Bees and Honey." 100-page pamphlet. Price, 25 cents.

Bienenzucht und Honiggewinnung, nach der neuesten methode (German) by J. F. Eggers.—This book gives the latest and most approved methods of bee-keeping in an easy, comprehensive style, with illustrations to suit the subject. 50 pages, board cover. Price, 50 cents.

Bee-Keeping for Beginners, by Dr. J. P. H. Brown, of Georgia.—A practical and condenst treatise on the honey-bee, giving the best modes of management in order to secure the most profit. 110 pages, bound in paper. Price, 50 cts.

Bee-Keeping for Profit, by Dr. G. L. Tinker.—Revised and enlarged. It details the author's "new system, or how to get the largest yields of comb or extracted honey." 80 pages, illustrated. Price, 25 cents.

Apiary Register, by Thomas G. Newman.—Devotes two pages to a colony. Leather binding. Price, for 50 colonies, $1.00; for 100 colonies, $1.25.

Dr. Howard's Book on Foul Brood.—Gives the McEvoy Treatment and reviews the experiments of others. Price, 25 cents.

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Foul Brood Treatment, by Prof. F. R. Cheshire.—Its Cause and Prevention. Price, 10 cts.

Foul Brood, by A. R. Kohnke.—Origin, Development and Cure. Price, 10 cents.

Capons and Caponizing, by Dr. Sawyer, Fanny Field, and others.—Illustrated. All about caponizing fowls, and thus how to make the most money in poultry-raising. 64 pages. Price, 20c.

Our Poultry Doctor, or Health in the Poultry Yard and How to Cure Sick Fowls, by Fanny Field.—Everything about Poultry Diseases and their Cure. 64 pages. Price, 20 cents.

Poultry for Market and Poultry for Profit, by Fanny Field.—Tells everything about Poultry Business. 64 pages. Price, 20 cents.

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Golden Beauty Italian Queens,
Reared from imported mothers.

Untested, 50 cts.; 12 Untested, $5.50; Tested, $1.

J. S. TERRAL & CO., Lampasas, Texas.
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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, April 19.—Market is well cleared of white comb honey; a little choice has sold recently at 16c, but dark and mixt goods are slow of sale. Extracted, white, 8@9c; amber, 7@8c; dark, 6@7c, according to quality and package. Beeswax in good demand at 28c.

R. A. BURNETT & Co.

CINCINNATI, March 3.—There is some demand for extracted honey from manufacturers at 7@7½c for amber and Southern; clover, 8@8½c. Comb honey is selling firm at 14@16½c in a small way. Beeswax, 25@27c.

C. H. W. WEBER,
Successor to Chas. F. Muth & Son and A. Muth.

BOSTON, March 9.—Our honey market is showing some signs of lower prices, altho the stock on hand is not large. At the same time prices are so much higher than previous years that the trade have taken it very slowly and the results are that the holders are willing to range prices quite a little in order to move stock on hand. Prices range: Fancy white, 17@18c; No. 1, 15@16c; amber, 10@12c; buckwheat almost unsalable. Extracted, best white California, 8½c.

BLAKE, SCOTT & LEE.

KANSAS CITY, May 9.—We quote: No. 1 white comb, 14@15c; No. 1 amber, 13@14c; No. 2 white and amber, 13@13½c. Extracted, white, 7½@8c; amber, 7c. Beeswax, 22@25c

The receipts and stock of honey on hand are light; demand fair. C. C. CLEMONS & Co.

DETROIT, May 24.—Fancy white comb, 15@16c; No 1, white, 14@15c; amber and dark, 10@12c. Extracted, white, 7c; amber and dark, 5@6c. Beeswax, 25@26c.

Supply and demand for honey both limited.

M. H. HUNT & SON.

BUFFALO, April 20.—For strictly fancy white one-pound comb honey we are getting 16@17c. Any grade sells high—10@15c, as to grade.

BATTERSON & Co.

NEW YORK, May 21.—Our market is practically bare of comb honey, and there is a good demand for white at from 13@15c per pound, according to quality and style of package. The market on extracted is rather quiet, and inactive. New crop is slow in coming in, and prices have not yet been establisht. Beeswax holds firm at 27@28c. HILDRETH & SEGELKEN.

SAN FRANCISCO, Apr. 25.—White comb, 11½@12½c; amber, 8@10c. Extracted, white, 7½@8c. light amber, 7@7½c; amber, 5@5½c; Beeswax, 26@27c.

Small quantities of new crop have been received, but not enough has been yet done in the same to clearly define values. Current quotations would not likely be sustained under anything like free offerings. The yield will undoubtedly prove light, and the market shows a generally firm tone.

OMAHA, Mar. 13.—Demand shows some improvement in January, having been much more active, but as anticipated there is no advance in prices. Market remains steady at 14@14½c for fancy white comb and 8½c for white extracted. The latter is pretty well cleaned up along the Missouri River, and it looks as if there would be some shortage before another crop comes in. From present appearances there is about enough comb honey to go around at the present prices, hence we look for no particular change in values. PEYCKE BROS.

BEES QUEENS
Smokers, Sections,
Comb Foundation
And all Apiarian Supplies
cheap. Send for
FREE Catalogue. E. T. FLANAGAN, Belleville, Ill.
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The leading Horticultural and Agricultural paper of the Pacific Coast. Publisht weekly, handsomely illustrated, $2.00 per annum. Sample copy free.

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WE MAKE ONLY THE BEST.

Our Falcon Sections and New Process Foundation are ahead of everything, and cost no more than other makes. New Catalog and copy of THE AMERICAN BEE-KEEPER free. Address,

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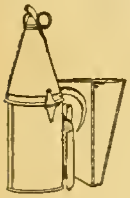
MADE TO ORDER.

BINGHAM BRASS SMOKERS

made of sheet-brass which does not rust or burn out should last a life-time. You need one, but they cost 25 cents more than tin of the same size. The little pen cut shows our brass hinge put on the three larger sizes.



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The perforated steel fire-grate has 381 holes to air the fuel and support the fire.

Prices; Heavy Tin Smoke Engine, four-inch Stove, per mail, $1.50; 3½-inch, $1.10; three-inch, $1.00; 2½-inch, 90 cents; two-inch, 65 cents.

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BINGHAM
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BINGHAM SMOKERS

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To say to the readers of the BEE JOURNAL that

DOOLITTLE...

has concluded to sell **QUEENS** in their season during 1900, at the following prices:

1 Untested Queen ..	$1.00
3 Untested Queens..	2.25
1 Tested Queen	1.25
3 Tested Queens	3.00
1 select tested queen	1.50
3 " " Queens	4.00
Select Tested Queen, last year's rearing.	2.50
Extra selected breeding, the **very best**..	5.00

Circular free, giving particulars regarding each class of Queens, conditions, etc. Address,

G. M. DOOLITTLE,
11A26t **Borodino, Onondaga Co., N. Y.**

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Because it has always given better satisfaction than any other.
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We guarantee satisfaction.

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Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

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Langstroth on the Honey-Bee, Revised.

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Beeswax Wanted at all times. **CHAS. DADANT & SON,**
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DR. MILLER'S

Honey Queens

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One Untested Queen Free as a Premium for sending ONE New Subscriber to the American Bee Journal for one year.

◆

We have been fortunate in making an arrangement with DR. C. C. MILLER—the well-known honey-specialist—to rear queens **EXCLUSIVELY FOR US DURING THE SEASON OF 1900.** These Queens will be mailed in rotation, beginning about June 1, so "first come first served." We are ready to book orders now.

The Queens Dr. Miller will send out on our orders will be precisely the same as those he rears for his own use, so of course they will be from his best stock. His best colony in 1899 had a queen reared in 1898; May 5, 1899, it had brood in 4 frames, and he gave it at that time a frame of brood without bees. It had no other help, but May 25 a frame of brood with adhering bees was taken from it, and the same thing was repeated June 3, leaving it at that time 5 frames of brood. It stored 178 sections of honey, weighing 159 pounds (and that after July 20, in a poor season), being 2⅔ times the average yield of all his colonies. A point of importance is the fact this colony did not swarm, and an inspection every week or 10 days showed that at no time during the entire season was there even so much as an egg in a queen-cell. Dr. Miller expects to rear queens from this one during the coming summer.

The demand nowadays is for **BEES THAT GET THE HONEY** when there is any to get, and Dr. Miller has such bees. You will want to have a queen from his best, we are sure, even if she is not pure Italian.

Do not send any orders to Dr. Miller, as all orders **MUST** come thru us, according to our agreement.

Remember, send us $1.00 for **ONE NEW SUBSCRIBER** to the American Bee Journal for one year, and **YOU** will get ONE OF DR. MILLER'S UNTESTED HONEY-QUEENS FREE AS A PREMIUM. This offer is made *only* to our present regular subscribers. Orders for queens to be filled in rotation, beginning about June 1st.

Address all orders to **GEORGE W. YORK & CO.,**
118 Michigan Street, CHICAGO, ILL.

MASSACHUSETTS

GEORGE W. YORK, Editor.

AMERICAN BEE JOURNAL.

ESTABLISHT IN 1861 — OLDEST BEE-PAPER IN AMERICA

DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS.

40th YEAR. CHICAGO, ILL., JUNE 7, 1900. No. 23.

CONTRIBUTED ARTICLES

Marketing Honey—Carton Suggestions.

BY F. GREINER.

A GREAT deal has been written from time to time on marketing honey, and, as time goes on, more will be written, providing we are progressive.

Dear reader, you may think the above subject is entirely out of season at this time, a time when there is no honey to market. Mr. Editor, you may be edging toward your capacious waste-basket—that dreaded monster of the "Would-be-Writer." But when we take into consideration that the first step in marketing is "producing"—producing that which is wanted—and that in this article I wish to speak of the package best adapted for the retail trade, which we will have to adopt now or wait till another season comes around, then, Mr. Editor, my article may *not* be considered out of season.

I believe most honey-producers will agree with me that but a very few grocerymen and clerks may be found who understand how to handle comb honey properly. I myself have witnest a groceryman taking the honey out of a non-drip shipping-case and pile it section upon section pell-mell on his scales in order to ascertain the correct weight of the contents of a case of honey, apparently not having faith in the honesty of the producer, who had markt each case with the net weight. It seems that groceryman must have paid dearly for his mistrust, for scarcely a single section came out of that "screep" wholly intact. That man understood nothing about the nature of honey, and he probably laid all the blame of that honey leaking afterward upon that dishonest bee-man who traveled 200 miles to the city of Washington to cheat him, when it was himself, and he only, who caused the mischief. But it is just such men who are expected to handle our product, and it would be an advantage if we could so put up our honey that even such awkward men as the above-mentioned could handle it without damaging it.

It may be true that few consumers are willing to pay for glass and pasteboard; but just as long as inexperienced men handle the honey crop "*glassing the sections*" seems to be the only way out; and a properly-gotten-up carton solves the question to perfection. The carton offered for sale now does not fill the bill; it does not show the honey. The carton of the future must be partly of glass, and right here is where Mr. Betsinger's carton is superior to any other. Herewith is an illustration of the same in its different parts.

The carton is composed of three pieces. Two of them are like Fig. 1; when folded ready for use they appear like Fig. 2. They are made according to size of sections, of square or oblong pieces of pasteboard as shown in the illustration. A large opening "G" is made, over which is pasted a piece of glass of suitable size. The section of honey is encased in these two pieces, and then the third piece, the rim (Fig. 3), is slipt over the whole. This rim or frame is a narrow, long piece of pasteboard of the width of the section, folded properly and glued together.

These cartons may be shipt in the flat like the old style. They weigh, glass and all, just one-fourth pound, and cost by the thousand about $20. In selling them with the honey by weight they fully pay for themselves.

A slight difficulty comes in here: The trade calls for a section of *one pound*, not over that. It is evident that we must adopt a smaller section than the one-pound section, or one that when well filled weighs not over three-fourths pound. A narrower section is just the thing, and those bee-keepers who use T supers can very easily make the change necessary, but we who use wide frames and section-holders, especially when fitted up with fences or cleated separators, are in a sad predicament.

While the carton directly increases the cost of market-

Fig. 1

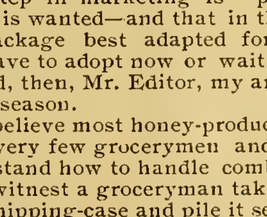


Fig. 2

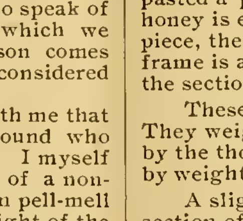
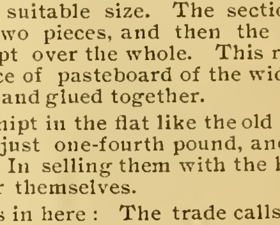


Fig. 3



ing, there indirectly occurs a saving. The cases need not be glast, and the paper trays and the little strips now used in the non-drip cases may be omitted. When we further take into consideration that the new carton, as stated above, when sold by weight, sells for more than cost of the carton, and that the honey, when put up in these, sells quicker, and probably brings more than honey without the cartons, it will be seen that it is a good business to invest in "glast cartons." We shall use some, if—we have any honey to sell! The patent is held by N. N. Betsinger, who exhibited the carton at the last New York State bee-keepers' convention at Geneva.

For the purpose of supplying the trade with fancy extracted honey, glass packages, such as we already have, are probably best; at least I know of nothing better. Many years ago I put up my best extracted honey in the square one-pound Muth honey-jar. The cases I made cheap and strong, holding 24 jars with pasteboard partitions between the jars—egg-crate-filler fashion. Thus they carried nicely, and the prices obtained then were entirely satisfactory, being 35 cents per jar; but the time of high prices is past and gone, and we will be satisfied with half of that price; we are therefore looking constantly for cheaper packages.

Where extracted honey can be sold to consumers in 60-pound lots not at fancy prices, a wooden pail answers our purpose quite well. Enough of second-hand candy-pails may be pickt up during the summer at our different grocery-stores to store several tons of honey. Their cost is only 10 cents, and they need but little cleaning. Mr. Chas. F. Dodd, a New York bee-keeper, sold all of his extracted honey, put up in such candy-pails, to a Pennsylvania firm for their trade in a mining town.

I have used regular butter-tubs for the same purpose. The wooden pail I would not fill until the honey is about ready to granulate. As soon as it is solid the covers may be nailed on, and the net weight markt on each package, when they will be ready to ship. Ontario Co., N. Y.

General Directions for Finding the Queen.

BY ERNEST R. ROOT.

If the bees are Italians, queens can usually be found at least on the third or fourth frame taken out of the hive. A practical bee-keeper will first pull out the center frame, and look for freshly laid eggs. Failing to find these he will take out another frame from another portion of the brood-nest. If he finds the eggs, then he has reasonable assurance that the queen is *somewhere* in this part of the hive. He looks the frame over carefully, and, failing to find her, he takes out the next one, each time following in the wake of the eggs. While it is no sure rule that the presence of freshly laid eggs in any portion of the brood-nest is evidence that the queen is in that part of the hive, yet, generally speaking, she will be found near them. If, for instance, I have found no fresh eggs in the center frame, and none in the next frame that I may have out on one side of the brood-nest, then I take the opposite side till I find the eggs. But suppose I have found them, and I do not find the queen. Well, it sometimes happens that a queen will suddenly leave a large fresh patch of eggs in one portion of the brood-nest, and then go clear across the whole hive to the other side, and begin operations there.

It not infrequently happens that one has to look over every frame, not once, but twice. If she is not found on the frames, then she may be on the bottom-board or inside of the hive. If the bees are black, and the queen of the same race, she will be more than likely to be in a bunch of scrambling bees in one corner of the hive.

If the queen is not found at the first or second going-over of the frame, I shut such hive up and go back in the course of an hour. This time I use very little smoke, and proceed as quietly as possible so as not to disturb the bees. If the queen once gets frightened she will run and hide. If the bees start to running and buzzing again, better shut the hive again, to be visited later, for there is no use in wasting time.

I remember I had once been hunting for a black queen for perhaps 15 or 20 minutes. I finally called to one of the boys in the apiary, and we together scanned both sides of the frames at once—he on one side of the frame and I on the other, for I thought I had caught a glimpse of her going on the other side of one comb just the moment the frame was turned toward me. Having caught sight of her, we watcht her for the fun of it. My friend got back of a clump of bushes where he could not be seen. Curiously enough, this queen would hover around in a little space between the bottom of the comb and the bottom-bar. Whenever I turned one side of the comb toward me, she would quickly go on the other side. Upon my word, if she did not dodge back and forth as I turned the comb! No wonder I could not find her, for she had learned her trick of dodging, and kept it up. I have seen this with other black queens, and perhaps with hybrid queens, but I do not know that an Italian queen among Italian bees would ever do this. One very valuable quality of the Italians is their perfect at-homeness on the combs, whether the hive is open or closed; and one very mean trait of black hybrids and blacks is their fashion of running and scrambling over the combs, scaring the queen in their general rough-and-tumble confusion, one bee over the other. Whenever I have occasion to find black queens in populous black colonies, I always feel that I have a "job" on my hands. About the first thing I do is to tuck my pants down my stockings; and then if I can have an assistant, he is askt to use his eyes.

Some bee-keepers, when they desire to find black queens, take all the combs out, take the hive and dump it in front of the entrance, set it back, and clap an entrance-guard over the now empty hive. The bees are all shaken off the combs, and the entrance-guard is eagerly scrutinized to see when her majesty strikes the obstruction. I do not know but, all things considered, this is about as quick a way to find black queens among black bees as to undertake the very uncertain and laborious method I have already described.

Some of those who use shallow brood-chambers advise shaking the black bees out of the combs by shaking the whole chamber, and then watching the bees as they crawl toward the entrance. It is said that the queen can be easily seen among the bees, and pickt out. I have tried this a number of times, but have never been successful. In the first place, it took more strength than I had, to do a thoro job of shaking; and in the second place it takes a pretty sharp pair of eyes to see the queen among a lot of bees an inch or so deep, all of them working toward the hive.

Unless one wishes to clip a queen's wings, to replace or sell her, it is a waste of time to try to find the queen. If one sees eggs regularly laid, and brood in all stages, sufficient stores, there is no need whatever of hunting a queen. Beginners often spend a lot of useless time in this way, sometimes leaving the combs exposed to the sun. Robbers start in the meantime, and there is a "general row."—Gleanings in Bee-Culture.

Giving a Queen to an Old Colony Immediately After It Has Swarmed.

BY G. M. DOOLITTLE.

QUESTION.—"A friend tells me if I wish to be successful as a honey-producer I should give the old colony a queen immediately after it has cast a swarm. Is this right? I wish to know so I may prepare hives for nuclei for the rearing of such queens this winter if this is the best way. Please tell us about it in the American Bee Journal."

ANSWER.—This is a theme much harpt upon some years ago, but of late not so much has been said about it. At that time we were told that the bee-keeper who wisht to secure the best results from his bees should have a laying queen ready to give to each colony as soon as it casts its first or prime swarm, as the time lost to the old colony in rearing a queen was equivalent to a swarm of bees. I went to experimenting, and the truth of the statement that the time lost by the bees in rearing a queen was equivalent to a swarm of bees was just the thing which made the plan unsuccessful with me. If it were *bees* that I had wisht, it would have been a success.

In this locality white clover yields only enough honey, as a rule, to keep the bees breeding nicely, and thus swarming is brought about from June 20th to July 1st. Our main honey harvest is from basswood, which blooms from July 4th to the 16th. All who are familiar with natural swarming know that bees are comparatively few in the spring, and increase by the rapidly increasing brood produced by the queen until a swarm is the result. By giving a laying queen to a colony immediately after it has cast a swarm, the same conditions are brought about as before—natural swarming. The only difference is, that having plenty of brood at the time the queen is given they build up faster, so are prepared to swarm in a shorter time. Now this last swarming, brought about by the giving of the queen, will come right in our basswood honey harvest, so it cuts off what we are seeking after, namely, surplus comb honey; for it is well known that bees having the swarming-fever do little or no work in the sections; and if allowed to swarm again the section honey we were seeking for has past away with this second swarming.

Now let us look and see how the matter would have stood had we allowed the colony to rear its queen, instead of giving one:

Eight days after the swarm issued the young queen would have naturally emerged from her cell, and if at that time we remove all other queen-cells from the hive all second swarming is entirely prevented. In ten days more, this young queen is ready to lay, which is about the time basswood begins to yield honey freely. During the period between the time the prime swarm issued and when the young queen commences to lay, the bees not having any brood to nurse for the last half of the time, consume but little honey, hence, as fast as the young bees emerge from the cells they are filled with honey, for bees not having a laying queen, nor any unsealed brood, seldom work to any amount in sections. So when the young queen is ready to lay she finds every available cell stored with honey. At about this time, or perhaps a day or two before, the instinct of the bees teaches them that they must have brood or they will soon cease to exist as a colony, and a general rush is made for the sections. The honey from below is carried above, and this, together with the large amount coming in from the field at this time, results in nearly completed sections in a week's time, so that by the time the basswood flow is over we have well filled sections of the very finest quality, such as always bring the very top price in market. Many and many a time have I had such colonies fill and complete section honey to the amount of 60 pounds in from 10 to 12 days, while, when I was experimenting with the plan recommended to the questioner, those upon which it was tried, did little else than swarm during the same time.

Different localities give different results, and where a locality gives one continuous yield of honey for months at a time, then the giving of a laying queen to the old colony immediately after swarming would work better, especially where working for extracted honey. But according to the various localities reported to me during the past 30 years, it is evident that by far the larger number of localities give a large flow of honey at a certain period rather than a continuous yield during the whole summer.

Then I have another reason for not liking the plan in a locality which does not give a steady yield, which is this: After basswood we have a honey-dearth, hence the bees from the introduced queen are of no special value, but, on the contrary, are brought on the stage of action only to become consumers. On an average it takes 37 days from the time the eggs are laid till the bees from such eggs go to the fields as laborers; hence the eggs for the honey-producing bees must be deposited in the cells that length of time before the honey harvest ends, or else they are of no value as honey-gatherers. As the basswood is all gone before the eggs of the introduced queen become honey-producing bees, and as the larger part of them die of old age before buckwheat or fall flowers yield honey, it will be seen that we are only working to a loss by giving such queen, and that a great gain is made by letting each old colony, having cast a swarm, rear its own queen; for thereby we save the expensive feeding of the larvæ, which are only to become expensive consumers of the honey brought in during the harvest.

Again the chances are that the colony rearing its own queen will be better stockt with bees of the right age for wintering at the close of the season than will the one having the introduced queen.

All of these things need to be considered before we enter any matter which has not been fully tried with us. It is always well to go slow in any new thing till we have proven it a success, then we can enter it largely, with assurance, if successful. Onondaga Co., N. Y.

Report of the Wisconsin Inspector of Apiaries for 1899.

BY N. E. FRANCE.

THE severe cold weather last February was as hard on Wisconsin bee-culture as ever recorded. Out of several hundred reports I received from various parts of the State, I judged about 70 percent of the colonies of bees, fall count, in 1898, died before warm weather of 1899. A large portion of the bees were wintered in cellars, either built for the purpose or under residences. A lack of proper heat and ventilation caused a great loss. There being no snow on the soil in the southern and eastern parts of the State at the time, this cold wave killed the white and alsike clover and many other valuable honey-plants. The result was a light crop of Wisconsin's noted white honey. The river bottoms and marshes in western and central parts of the State produced a good yield of fall honey.

Many Wisconsin bee-keepers keep only a few colonies of bees, and seldom read a bee-journal or book on modern methods of bee-culture. Such persons know nothing about diseases of bees. There is a great need of education in this branch of agriculture.

The university short course in agriculture and farmers' institutes held thruout the State have greatly improved the agricultural resources of Wisconsin. I am pleased to state bee-culture is of late being called for at the farmers' institutes. Several of the institutes I have attended showed as much interest in bee-culture as any topic on the program. I also found the two days I spent at our State Fair, showing diseased combs and answering the many questions to bee-keepers in attendance, was valuable to many.

I hope soon to see this valuable branch of Wisconsin agriculture encouraged more at our State and county fairs.

The white grades of Wisconsin honey are noted as being in quality equal to that of any other part of the earth, and by a little encouragement and better methods the product could be doubled.

Some years ago an eastern United States bee-keeper located in San Diego County, Calif. His success became noted, other parties engaged in the enterprise, and by the encouragement of the county, and later the State, said county became noted, as shown by the report: Said first bee-keeper in 1870 harvested 3,750 pounds of honey, 17,000 pounds next year, 30,000 pounds next season, and in 1873, 61,000 pounds. Said county shipt 75 carloads of honey in 1895; 15 carloads in 1896, and 85 carloads in 1897.

Wisconsin has averaged more honey per colony for a term of years than California. There are Wisconsin bee-keepers whose honey crop is from 25,000 to 52,000 pounds per year.

As there are many bee-keepers in Wisconsin that could not understand my circular on diseases of bees, I had 1,000 copies translated into German.

Chapter 150, Laws of 1897, have been revised, and so materially varied that I am compelled to work to a disadvantage. This year I had to leave some diseased counties not cared for, as a result. To show the need of Sec. 4 Chap. 150, Laws of 1897, I call attention to an example:

I found foul brood quite bad in an apiary with several other apiaries near. I quarantined the diseased apiary and gave the owner full instructions for treatment and cure of the disease; said owner to follow printed directions and report to me later. In a few days I received a letter from one of the neighboring apiaries, stating those diseased combs had not been burned as directed, but had been put in exposed places where bees from other apiaries were working freely on them, taking to their hives the diseased honey. The next day I found the complaint was correct. I at once saw all diseased material properly cared for; but our present revised statutes provide no penalty for such crimes, or compulsion to make said owner do as instructed. The Wisconsin State Bee-Keepers' Association carefully drafted the law of 1897, and I hope the next Legislature will place the same back on the statutes.

Out of 4,454 diseased colonies I have inspected, I am pleased to state that with a few exceptions like the above, the owners have been anxious to know what was the trouble with their bees, and almost every one who followed my instructions now has a healthy apiary. If it were not for the few exceptions and a little importing of the disease into our State from adjoining States and Cuba, I fully believe by this time I could have eradicated the disease in Wisconsin. Most of the honey-producing counties are now free from foul brood, and bid fair again to export their carloads of honey.

I wish before closing to quote from one of our former bee-keepers in his report at the 30th annual convention of the United States Bee-Keepers' Association, Sept. 5, 6 and 7, in Philadelphia:

"So plentiful is foul brood in Cuba we have nearly all had a sight of it. I know of over $100 worth of bees to dwindle out of existence from its ravages in Havana Province alone, and I still know of hundreds of colonies on the same road to sure and certain death. Many of the affected ones have been sold, and hauled hither and thither, until the question is, Where can I locate and be safe and secure? I myself took in 90 days from 100 colonies 2,400 pounds of fine honey—but where is that 100 colonies now, and still another 150 that I had in Cuba? All dead from foul brood. I shall try it once more, as the leading bee-keepers of the island now have a move on foot to establish a foul-brood law with an inspector to inspect and condemn all infected colonies"—as they do in Wisconsin, Colorado, California, New York, and other States.

Grant Co., Wis., Nov., 1899.

Honey-Production in Old Palestine.

BY SELAH MERRILL (CONSUL).

IN ancient times, Palestine was famous for its honey, and it has always been produced here, but until recently the methods employed have been crude. The credit for developing this industry by the introduction of improved modern appliances is due to a family named Baldensperger, which came from Switzerland in 1849, and settled at Artas, a small village about seven miles south of Jerusalem, and near the famous pools of Solomon. The father had always been interested in bee-keeping, and began to keep some bees in native hives—that is, long terra-cotta jars. What he actually accomplisht in this line was of little account, except to awaken in his five sons an interest in this business, which, thanks to their enthusiasm and perseverance, has become a success.

The Baldensperger boys needed instruction, but books were dear, and communication with Europe infrequent, and it was not till the year 1880 that a real start was effected. In 1883 they adopted the plan of transporting their bees from one locality to another. From the region of Ramleh they carried them to Yafa, a distance of 12 miles, to give them the benefit of the orange-blossoms there. Women carried the hives on their heads all the way, each woman carrying one hive. They had a rich harvest of orange-blossom honey during the month of April, and in other places two crops from cactus and acacia blossoms, respectively. They also started another apiary, and secured from other localities crops of honey from lemon blossoms and from wild thyme. The next year, also, they had good crops of honey, the 50 hives at Yafa alone yielding 6,000 pounds in less than one month.

It was not long before this industry began to attract the attention of the government, and at first a tax of a little less than 10 cents a hive was imposed, but this was very soon increast by an ingenious device whereby the officials not only counted the actual hives, but every door, window and hole in which they could see any bees moving was reckoned as a "hive," with the result that 150 hives were counted as 2,000. The matter had to be carried to court, and was not settled till after two years of litigation, when the Baldenspergers were found in debt to the government to the amount of about $500. This decision affected one large apiary only.

It was in 1889 that this judgment was rendered, and, as the Baldenspergers refused to pay, this apiary was sold at auction in Jerusalem for about $1.25 per hive. The difficult part of the work was to deliver the goods to the purchaser, which the officials were bound to do. The purchaser, the officials, and a large number of camels and camel drivers went to the place where the apiary stood, expecting to take it away, but as the bottom-boards of the hives happened to be unhookt, the bees, when the hives were toucht, swarmed out, and everybody had to retreat.

A compromise was effected, one-half the amount demanded being paid, and the bees remained in the hands of their original owners.

The bee-keepers had to contend with enemies, which at times nearly ruined their industry. Large yellow hornets came in such numbers that they prevented the bees from working, and destroyed multitudes of them. Sparrows, swallows, and bee-eaters (Merops apiaster) also did a great deal of mischief. Badgers, during one winter, destroyed 15 colonies. Rats are very troublesome; they do not eat the honey, but destroy the bees. Two kinds of lizards do much harm. There is also a destructive moth, called "death-head moth," which appears in autumn and enters the hives to eat honey, but does not harm the bees. One of these moths will take a teaspoonful of honey at a time. A strong colony of bees will sting the intruders to death. The greatest enemy is man. Wherever an apiary is set down, the sheiks of the nearest villages have to receive a certain amount of honey, otherwise the bees will be stolen. When a hive is stolen, fire, and sometimes water, is used to destroy the bees. About one-tenth of all the honey produced must be given away to prevent people from taking the hives.

Furthermore, when the bees are being carried from one place to another on camels, the Bedouins, or wild Arabs, occasionally steal the camels. If to this list is added the taxation, it will be seen that the industry of keeping bees in Palestine is beset with many and serious obstacles, and requires patience, tact and perseverance.

When it seemed probable that this industry, so far as the Baldenspergers were concerned, would be ruined by excessive taxation, they sold a large number of colonies, some to natives who had been their servants, and had learned the business from them, and some to a small colony of Jews in Wady Hanein (on the plain of Sharon, south of Ramleh), so that there are now about 700 colonies of bees at work besides those belonging to the Baldenspergers.

A good market is found for all the honey produced. It is sent to Germany, Switzerland, England, and a very little to France. Last year (1899) the market was unusually good, because the yellow hornet had been so destructive to the native bees.

The export duty is one percent.

The average yield per colony is about 100 pounds of honey. The working months are April, May, June and July. After October nothing is taken from the bees. They are then allowed all the honey they have—25 to 30 pounds per colony—to live upon. In January the keepers begin to feed them some stimulating food.

Natives all over the country produce honey after their crude methods, as they always have done; but they neither produce nor sell much, and since they can not remove the honey without destroying the bees, their business is not profitable. The "extractors" which the Baldenspergers use contribute largely to their success.—The National Rural.

Jerusalem, Jan. 25, 1900.

Bee-Keeping in Clark County, Wis.

Written for the Wisconsin Convention, held at Madison, Feb. 7 and 8, 1900,

BY HERBERT CLUTE.

FOR the benefit of bee-keepers in Clark County I will try to give all and each a little insight into bee-keeping here.

First, we have the pasture so that our bees as well as the apiarists have great advantages over those of the localities in other parts of Wisconsin, as well as in most of the other States.

Our bee-pasture is located on a very fertile belt of land that is very heavily timbered with basswood, two kinds of maple, also any amount of thorn-apple trees, wild plums, cherry, etc., and gooseberries and raspberries in large quantities. Besides this we have the wild myrtle, which I have never seen growing elsewhere. It grows in every foothold that it can find, and the bees store considerable honey from it if they are strong in time to catch it. It grows some like the blueberry-bush, only it is more like a vine, and has a long, yellowish blossom. We also have the willow-herb and two kinds of asters.

John R. Schmidt says on page 785 of the American Bee Journal for 1899, that there is only one kind of aster, and that he thinks the color leads to the false idea that there are two kinds, but if he will come here and examine the aster he will find two, if not three, different kinds. They are different in size of stalks; one kind branches out very wide and low, with a very small blossom, and the other kind grows tall, with a very large blossom. We also have more white clover and dandelions in Clark County than almost any other part of the State.

For drawbacks in Clark County I will say that there is just one, and that is that we have so much rain in the spring at breeding-time. Still, the rainy spell varies so that we sometimes get our bees bred up quite strong before it sets in; but should it begin at the time the bees are put out on the stands, and last any length of time, then generally the case would show an unfavorable result. Still, I think and know that the rainy spell in the spring would not be so bad if it were not for there being so much sap in the maple-trees to encourage the bees to come out. Without the rainy spell, and if perchance a week or so of fine weather, even if the snow is not all off, the bees will fetch in from one-half to 10 pounds of the thin, watery sap of maple-trees. But if the rainy spell sets in the bees get excited over it, and will go out just the same if it is rainy or

Comb Foundation Factory, Apiary, and Home of Gus Dittmer, of Augusta, Wis.

drizzly, and they become chilled and do not return; but the worst part of it is, if the drizzling rain is warm, and then between 2 and 4 p.m. the wind turns to the north or west. At such times I have seen logs, trees, fences, etc., all covered with chilled bees so that the colonies that have but little brood are "gone up" for the season, while those with lots of hatching brood make prosperous colonies, so we need lots of brood at this time of the year, and must feed early. If the rainy spell doesn't come until late, we are prepared for it, as the bees will be very strong, even to swarming, the last of April and along to May 9.

When I sold bee-supplies, different ones would come for hives the last week in April, saying that their bees had swarmed. Instead of deserting, as some may say, they were not deserters, but good, big, natural swarms, and would build or draw out worker-comb, sometimes getting 8 frames nearly full of comb and brood in a week's time. I have noticed that the comb drawn out at this time of the season seems to be of different color, and of coarser work than that done later in the season, as tho they had workt rotten wood of pine logs in.

We have read the discussions over pollen-feeding, some using flour, and others something else, while here there are very large logs of pine everywhere lying on the ground, and in spots they are very rotten. The bees go to them sometimes by the hundreds, and kind of dig away until they get quite a load of the fine, rotten pine wood on their feet, and then away they go. Another man and I watcht one place on a log where there were from 400 to 500 bees at work carrying the rotten pollen of the pine log for a week, even after the alder and willows, acres of each of which are quite near, had begun to furnish pollen plentifully. From this it would seem that it would pay all bee-keepers to feed pollen where the bees did not have it natural as here.

It is almost disgusting to look below where the country is old, tho probably once when it was new large yields of honey were secured from it, while to-day the bee-pasturage has mostly "played out." But no matter how poor it seems, there are a great many that seem to think it good, and crowd in a lot more bees by the side of other apiaries located there long before. If such wish to keep bees they can do it successfully in just one way, which I will name here. While on some one else's overstockt field, neither of them will make a profit out of bees, but if they will move north with the bees there are miles of good bee-pasture that is not occupied. Clark County is not the only county in which bees will do well.

It is true that our willow-herb belt is not very wide; some places it is 18 to 20 miles wide, while in other places it is up to 150 miles in width. But I think the length of it extends from below Split Rock in this State thru to Minnesota, while the aster belt reaches thru to the Lakes. I believe that 200 miles north of here is the most northern apiary in the State, consisting of 60 colonies; one might as well say two apiaries of 30 colonies each, as the man and his wife could not agree, and so divided the colonies—one lives on each side of the road, and each year they both get a large crop of very white honey. I visited their apiaries in 1897, and saw some of their honey, and it looks like the very whitest lard when candied, and when in the liquid state it looks clearer than water.

Now for bee-pasture: All of the 200 miles between here and the northern part of this State is unoccupied by bees, with the exception of a yard scattered here and there every 75 or 100 miles. Better honey, better yields, etc., are secured than in almost any other places in the lower States. Asters grow on every hillside, also thousands of other flowers.

Of course Clark County varies to a certain extent in bee-pasture. About 18 to 20 miles south of Greenwood the pasture gets very poor, on account of the large belt of almost worthless sandy land, where willow-herb or the basswood will not thrive. Nothing but blueberries, jackpine, cranberries, etc., thrive on it for miles.

As to being cold in Clark County, it is not as bad in the winter or in the summer as in lower Wisconsin, Northern Illinois, and in that vicinity. Here in the summer the air is still, while there on the prairie there are steady cool breezes. In the winter here there is not much wind, and the air is drier, while there the snow drifts high, and there is a steady, cold, sharp breeze.

Our bee-pasture will be getting better as the land is cleared up, as we now have more basswood than the bees can handle while in bloom. Also, as the land is cleared up clovers are sown. In the meadows five years ago there was not the first acre of alsike clover grown. To-day there are acres of alsike sown, and the farmers are encouraging it to be grown for seed, as it fills well here, and they are now talking of getting in a huller and raising the alsike for its seed.

Another advantage in Clark County is being in direct line to the large markets for shipping honey. We have the west very handy, also all the north, besides any amount of large consuming towns thru the county. Bee-supply factories are near at hand, lumber is cheap, clover and hay grow two or three tons to the acre, oats and peas 65 to 75 bushels to the acre, and oats have in exceptional years grown 100 bushels to the acre. This shows the condition of the soil.

We put the bees out on the summer stands in this climate about the last of March or the first of April, and put them into winter quarters from the first of November up to the middle of December.

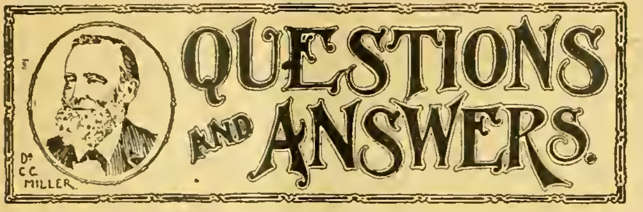
We can not have failures here if bees are strong, still we can, and have lost lots of nectar by having the bees begin breeding as the new nectar came in, and as the honey harvest was past and the bees put in shape by the majority of bee-keepers.

It is estimated by Rufus Barman that there are from 300,000 to 400,000 feet of basswood (three trees to the thousand) within two miles of me. J. C. Miller, a big logger, estimates that there are 4,000 trees that are fit for lumber, besides the crooked and small ones. After the bees quit work on the maple sap they go to work on the willow and the two kinds of alder, then come the pin-cherry, choke-cherry, etc., besides gooseberries. After these are the wild plum, maple, box-elder, elm, etc.; then the thorn-apple, wild pea, and the dandelion; then come wild myrtle (which lasts three weeks), white clover, raspberry, willow-herb and basswood; next, thorowort, motherwort, wild catnip, wild anise, spike sumac, buckwheat, mints, heartsease, goldenrod, and lastly the asters.

Clark Co., Wis.

Belgian Hare Breeding is the title of a pamphlet just publisht, containing 10 chapters on "Breeding the Belgian Hare." Price, 25 cents, postpaid. It covers the subjects of Breeding, Feeding, Houses and Hutches, Diseases, Methods of Serving for the Table, etc. It is a practical and helpful treatise for the amateur breeder. (See Prof. Cook's article on page 292.) For sale at the office of the American Bee Journal. For $1.10 we will send the Bee Journal for a year and the 32-page pamphlet on "Belgian Hare Breeding."

The Premiums offered this week are well worth working for. Look at them.



CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Extracting Unsealed Honey.

Can I extract honey that has not been sealed? I have reference to uncapt honey. Will it be just as good?

OHIO.

ANSWER.—You can extract it with less trouble than to wait for it to be sealed, but it is not so good. One of the things that has badly damaged the reputation of extracted honey is putting such unripe honey on the market. Some say that with the proper appliances they can ripen such honey artificially, but nothing can be better than honey ripened perfectly on the hives.

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Probably Short of Stores.

My bees have wintered well. Altho I have but 3 colonies I cannot get along without the American Bee Journal. Two of my colonies did not have a pound of honey left, and I have to feed them as the weather is bad, and there are no flowers for honey yet. Last year was not a very good one here for honey.

I noticed this morning that one colony had carried out some dead bees which were young and not yet colored, but had wings and legs formed. Do you think this anything serious? J. F. B.

Buena Vista, Co., Iowa, April 17.

ANSWER.—If only a small number of such immature bees are carried out, it means nothing serious, and may result from the work of the wax-worm. If the number is large, it is likely the bees are short of provisions, and the first sign of starvation is their sucking out the juices of the brood. Sometimes bees thus starve even after clover is in bloom, and when remains of young bees are thus found in front of a hive, it is well to look after the stores.

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Swarming Indications—Fears In-Breeding.

1. I procured two colonies of bees and think I have fully my money's worth. After feeding them a little daily for 9 days, I opened the hives to see what I had. I found some sealed brood, some sealed honey, some unsealed honey, and a good many empty cells. The hives are so filled with young and old bees that I was glad to get the combs back without crushing a lot of bees. I transferred them to larger chaff hives and put a new frame with full foundation between the middle combs. The bees commenced working with vigor on this new comb. To-day some bees carried pollen while hundreds of them kept flying in front of the entrance. Also, some drones past in and out. Does this indicate that they are about to swarm? or, is this excitement caused by the transferring to new hives and moving a little from the old place?

2. Where a person has but two colonies, and when there are no other bees around, would you deem it advisable to buy and introduce a tested queen for the mother colony? Or wouldn't it be better not to let them swarm, and increase by dividing, and give a tested queen to such newly-made colony?

My idea is to prevent in-breeding, for where there are but two colonies, the chances are one out of the two that the young queen in the mother hive (after the old one leaves with the swarm) will be mated with her brother. Am I right, or am I wrong? SOUTH DAKOTA.

ANSWER.—1. Any change in the appearance of the front of the hive would make bees hesitate about promptly entering, and a change in position would have the same effect, the bees hovering on the wing some time before entering. This flying at the entrance would in no case be an indication of approaching swarming, for there are times when every colony will have its play-spell, the young bees having a jolly time sailing about with their heads toward the hive. Neither is the presence of drones to be understood as indicating swarming.

2. Other things being equal, you will have more of the new stock if you get the new queen before dividing or letting the bees swarm. There probably is no great danger of in-breeding, for in all probability other bees are within two miles of you.

◆

Doolittle Cell-Cups in Queen-Rearing.

How do you manage to have the Doolittle cell-cups accepted by the bees when transferring larvæ into the cups? Do you give them to queenless bees, or are they given to bees in an upper story as given in Doolittle's "Scientific Queen-Rearing?"

I have tried both of the above-mentioned plans, and failed with both. If you will kindly give me your plan perhaps I can succeed easier than by trying to follow that cracker-jack, of New York. ILLINOIS.

ANSWER.—That "cracker-jack" is all right. I half suspect that you didn't notice carefully what he says on page 99 of his book on queen-rearing. "It is essential, if we would produce good queens, to feed the queen-rearing colonies when honey is not coming in from the fields." Even with all the feeding you can do, if the weather is too cold you cannot get cells accepted and completed. With reasonable weather and feeding, I have no trouble in following Doolittle's plans, but it's a good deal better to have a good flow coming from the fields. Stick to it, and you'll come out all right.

◆

Killing Bumble-Bees—Gill as a Honey-Plant.

My bees are in fine shape—no winter loss. I can today take nicely finisht sections from my 6-frame hives, but none from my 10-frame.

We have the greatest amount of bumble-bees this year than we ever had; they are so thick that they drive the honey-bees off of the best honey-producing plants or flowers. So my wife, myself and children made war on them. We each took a small paddle and killed 614 in two days. They are all queens, or last year's bees, so each one this season would have been a colony or nest.

I enclose you a few branches of probably one of the finest honey-producing flowers in the world. Can you tell me what it is? It grows some like a vine, but not long. It blooms as soon as the snow is off, and continues until midsummer. Bumble-bees, and honey-bees, too, will fill themselves so full of nectar from this plant that they cannot fly. It grows best in moist places, but not in wet ones. OHIO.

ANSWER.—The plant sent is gill, or gill-over-the-ground, or ground ivy (Nepeta Glechoma), a near relative of catnip. It is of great value as coming at a time when it keeps up brood-rearing. "A B C of Bee-Culture," which gives a picture of it, says the honey from it is a little dark and strong, but passes very well when perfectly ripened.

◆

Irregular Laying—Cross Bees—Sawdust Packing.

1. What is wrong when from two to six eggs are found in one cell?

2. What causes an occasional egg left on the side of the cells about half way down?

3. Is dry cottonwood good fuel for the smoker? It holds fire the best of anything I can get.

4. What will prevent bees from being cross? I have 50 colonies of my own, and they are kind and gentle; but one of my neighbors hired me to take care of his, and they are as cross as can be.

5. Bees wintered well last winter. The way I prepared mine for winter is this: I built a box about six inches wider than the hives, and 18 feet long; placed the hives about 6 inches apart, put a board in front of the hives, placed blocks between the hives to hold the front board about one inch above the alighting-board of the hive; pulled the hives close to the front board, and filled in between the hives and at their back with sawdust. Thus the hives are protected on three sides with about 6 inches of

sawdust; the front facing the South is left open. The house is built high enough to let supers stand under them. I will leave the hives in the house or shed all summer to protect them from the sun. Will it do to leave the sawdust in during the summer? UTAH.

ANSWER.—1. When a very prolific queen has not a very strong force of bees, so that her field of operation is limited, she may lay two or three eggs in a cell, hardly more, and not often more than two. When laying workers are present, you will generally find from two to a dozen eggs in a queen-cell or in drone-cells. In worker-cells laying workers may do their work as regularly as a queen.

2. Sometimes there seems to be some imperfection that makes an otherwise good queen do so, perhaps only for a time. Generally, however, it is the work of laying workers which seem to have difficulty in reaching to the bottom of the cell.

3. Anything in the line of wood that holds fire well and makes a good smoke is all right.

4. Almost any bees will be cross if handled at inopportune times, as at times when the weather will not allow them to fly, too early in the morning, or too late in the evening. Sometimes a colony will be very cross, and the next time you handle them they will be very gentle, because the last time was in the middle of the day and they were busy gathering. Of course, the manner in which they are treated has something to do with it; go at them gently, using smoke in advance only as needed. There are bees, however, that are so vicious in disposition that they are cross at all times, and the only cure is to pinch the queen's head. Remember, however, that sometimes a whole apiary seems cross, when in reality, if you observe very carefully, you will find all the cross bees belong to a single colony.

5. I think it is generally believed they are rather better without the sawdust in summer.

Plan for Italianizing Black Bees.

1. I have two colonies of bees, one Italian and the other black, and I want to keep only Italians. Will it be all right to let the Italians swarm, and then divide the black colony, and give a frame with queen-cells from the Italians to each of the colonies that I have divided, and kill the old black queen? NEW YORK.

ANSWER.—That may work all right, but you may like this way better: When the Italian colony swarms, set the swarm where the Italian colony stood, put the Italian colony in the place of the strongest colony of the blacks, setting the latter in a new place. In a week or 10 days the Italian colony will swarm again, when the swarm will be put in the place of the strongest remaining black colony, and the latter will be put in a new place. A day or so later another swarm will issue from the Italians, and the process will be repeated as long as the swarming continues, each time putting the Italian swarm in place of the strongest of the blacks.

Belgian Hares.

On page 292 there is an interesting article on "Belgian Hares and Bees." I believe the combination one well adapted to this island. Where can a pair of breeders be obtained, and at what cost? Has this industry been introduced into the Southern States? CUBA.

ANSWER.—I cannot answer the first part of your question, but you will probably find Belgian hares advertised in these columns shortly. The industry is having a big boom in California, and possibly in other places south.

Hakes-Heddon Adulteration Case.—On page 312 we publish a report of the Hakes-Heddon adulteration case, as reported by Dr. Mason. The following further statement in regard to the matter appears in Gleanings in Bee-Culture, written by Editor E. R. Root:

In the Bee-Keepers' Review for May, Mr. Hutchinson gives a summary of the Hakes-Heddon adulteration case. In this connection Mr. Hutchinson says a sample of a lot of honey which he sold to Hakes, and which he (Mr. Hutchinson) says he bought of us, was also pronounced by the chemist to be adulterated. This matter was brought to our attention; but from the best information we could then get hold of the matter seemed to be very much mixt. Further investigation shows that the sample came from a shelf on which there were also bottles of Hakes-Heddon honey all of the packages "having the same labels," and right here would be a big chance for a mistake as to the source. In any case the sample is reported to have been "adulterated the same as the Hakes-Heddon honey."

We want the truth, no matter where it hits. If the honey came originally from us, it is some we sold to Mr. Hutchinson some three years ago. This he used for exhibition purposes, and afterward, as he says, sold it to Mr. Hakes. Mr. Hutchinson believed it to be pure, and so did we, and we think so yet. Even if the honey came from Mr. Hutchinson, it is not altogether clear that it came from us. Referring to the lot of honey that Hutchinson sent him, Hakes writes that Hutchinson wrote him that *some of it* might have come from the A. I. Root Co. This would indicate that Hakes had some honey from Hutchinson that did not come from us. In my talk with Dr. Mason I took it that he (Mason) gathered the same impression from correspondence he had had with Hutchinson. Here again there may be a mistake. I don't know. But however this may be, it is of small consequence, as Mr. Hutchinson would no more adulterate, or knowingly sell adulterated goods, than we. We understand also that the food commissioner visited Hutchinson, inspected his honey, and pronounced it all right.

The sample of the so-called Hutchinson-Hakes honey was not purchast by the food inspector as were the other samples referred to in Secretary Mason's report, and as a consequence no regular records were made as would be required from the inspectors. The sample was simply bought by Mr. Soper, and sent to the chemist after the food commissioners had bought the Hakes-Heddon honey. This is the reason why the matter did not appear in the Michigan Dairy and Food Bulletin No. 50.

It is our rule to buy of reputable producers; and, so far as we know, we have never sold an ounce of adulterated honey.

The Weekly Budget

DR. MILLER HONEY-QUEENS.—Dr. Miller writes us that he now expects to begin very slowly sending out queens on our orders by or before June 10, accelerating as time passes. He will mail to each queen-customer a postal-card a day or two before sending the queen, so that it may be known just when to look for the queens.

* * * * *

MR. O. O. POPPLETON, of Florida, writes that he expects to attend the Chicago meeting of the National Bee-Keepers' Association next August. It will likely be a big gathering. Every bee-keeper who can possibly do so should be present. The date is August 28, 29 and 30.

* * * * *

C. B. BANKSTON, formerly a queen-breeder at Rockdale, Tex., was referred to in this column about two weeks ago. Mr. C. H. Lothrop, of Massachusetts, wrote to us as follows May 20, concerning his experience with Bankston:

EDITOR AMERICAN BEE JOURNAL—

Dear Sir:—I write you in regard to C. B. Bankston. I find out by writing the post-master at Rockdale, that he has left for parts unknown. Therefore, he does not receive the money-orders, etc. He also tells me that his brother, J. M. Bankston (I think those are the right initials) takes his (C. B.'s) mail-matter. I got my order back from the brother. If any of your subscribers wish to get their money back, write to the brother.

The American Fruit and Vegetable Journal is just what its name indicates. Tells all about growing fruits and vegetables. It is a fine monthly, at 50 cents a year. We can mail you a free sample copy of it, if you ask for it. We club it with the American Bee Journal—both papers one year for $1.10.

AMERICAN BEE JOURNAL.
ESTABLISHT IN 1861 OLDEST BEE-PAPER IN AMERICA
DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS

PUBLISHT WEEKLY BY
GEORGE W. YORK & COMPANY,
118 Michigan Street, Chicago, Ill.

[Entered at the Post-Office at Chicago as Second-Class Mail-Matter.]

DEPARTMENT EDITORS:
C. C. MILLER, "Questions and Answers." * * E. E. HASTY, "The Afterthought."

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G. M. DOOLITTLE, C. P. DADANT, PROF. A. J. COOK,
F. A. SNELL, R. C. AIKIN, "OLD GRIMES."

IMPORTANT NOTICES:

The Subscription Price of this journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "Dec00" on your label shows that it is paid to the end of December, 1900.

Subscription Receipts.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows you that the money has been received and duly credited.

Advertising Rates will be given upon application.

VOL. 40. JUNE 7, 1900. NO. 23.

EDITORIAL COMMENTS

NOTE—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

Honey Quotations.—After writing to honey-dealers to inform himself in the matter, Editor Hutchinson now keeps standing at the head of his honey-quotations the following:

> "The prices given in the following quotations are those at which the dealers sell to the grocers. From these prices must be deducted freight, cartage and commission—the balance being sent to the shipper. Commission is 10 percent; except that a few dealers charge only 5 percent, when a shipment sells for as much as $100."

We were quite a little surprised, at the Philadelphia convention last September, to learn that there was a misunderstanding existing in reference to the market quotations on honey. We presumed that everybody understood that commission men always quoted the price that they sold honey for to the local dealers, from which of course would have to be deducted freight, cartage and commission, the balance being what the shipper or producer would receive for his honey.

The Use of Bait-Combs to get bees to work in supers sooner than would be the case without such bait, is favored by a large number of bee-keepers. Others say there is no need of them; bees commence soon enough without any bait. Possibly both are right. They are looking from different standpoints. The one uses a management that includes a prime swarm from each colony, the earlier the better. So there is no objection to having the bees crowded to the point of preparing to swarm before entering the supers. But the number of those who would like to dispense with swarming is large, and apparently on the increase. There are not wanting those who formerly maintained that best results could be obtained by having one swarm from each colony, who are now among the most eager seekers for the solution of the non-swarming problem. It is generally admitted that at least one of the factors in the problem is abundance of room, and the early occupation of the surplus chamber consequently is an aid to prevention of swarming. That bait-sections hasten the ascent of the bees is pretty clear from the testimony of many who say the bait-sections are the first occupied, and of some who testify that in a poor season they have had a single bait-section in a super filled and sealed, with not another section in the super drawn out.

As to the best method of using baits, there is not entire agreement. There is general agreement that it is best to have a full super of nice white bait-sections for each colony, but not often are such sections in sufficient numbers for this. If only a single bait can be had for each colony, the place for it is in the center of the super. If as many as four baits can be had for a super, the choice lies between putting the four in or near the center and putting one in each corner. If one is put in each corner, the whole super will be more evenly finish up, for the corner sections under ordinary circumstances are the last to be filled. But the bees are likely to commence work in the super at least a little earlier with bait in the center, and some are not anxious to have the corner sections keep pace with the others, considering it better to take off the super while the center sections are white, uniting in a single super the unfinisht corner sections for several supers, and returning them to be sealed. This still leaves the question open, whether with four baits to a super it is better to have the four compactly placed in the center, or to have one diagonally adjoining each corner section.

National Queen-Breeders' Union.—Mr. J. O. Grimsley, in The Ruralist, complains very bitterly that the organization of which he is secretary has not been given a lot of free advertising by the bee-papers. Here is a portion of his wail:

> "There are a few of our leading apiculturists who are antagonistic to the National Queen-Breeders' Union, claiming that with the National Bee-Keepers' Association so ably doing its work, there is no need for a queen-breeders' organization. Who ever heard of a dairy association kicking because there was an organization of Jersey breeders? Who ever heard of the wool-growers kicking because there was a sheep-breeders' association?
>
> "Queen-breeders are as distinct from honey-producers—bee-keepers—as swine-breeders are from pork-packers; in fact, the same relations exist, yet some of our leading bee-journals have been as silent about the National Queen-Breeders' Union as if it was a disgrace to the bee-keeping world. Pick up any kind of a 'specialty' journal—poultry, pigeons, swine, or, in fact, any except bee-journals—and any movement for imrovement is heralded with joy. Not so with the Union. Now the question is, Why this antagonism?"

We believe the American Bee Journal has noticed the organization in question, giving its officers, and naming its objects. As it is limited to only a few persons interested in bee-keeping (or, more properly, bee-selling), we have not felt it necessary to use much space in calling further attention to it.

The National Bee-Keepers' Association is an organization of which every one at all interested in bees should be a member. It is not restricted to a half-dozen or so people who have something to sell to bee-keepers, but it is in the interest of all who keep bees.

Suppose the supply-dealers should form a union, telling how honest they are, and how excellent are their goods—

does any one think we would use these columns to boom such organization? Hardly; unless the space were paid for like any other legitimate business or enterprise that wishes to do business with our subscribers for profit would be required to do.

We bear not the slightest ill-will toward the National Queen-Breeders' Union, or its members; and would say that so far as we know they have a perfect right to organize for their mutual advantage; but when they charge that because the bee-papers do not turn in and help along their pet scheme such papers are "antagonistic;" and that some bee-keepers are giving "kicks" when they ought to give encouragement—well, we don't know anything about the latter, but, speaking for one paper, we can say that we have never antagonized the Queen-Breeders' Union—have never closed our advertising columns to any of its officers or members, provided they were willing and able to pay the price we charge for advertising space; and, further, we are ready at all times to help on any good cause that has for its object the general advancement of the welfare of bee-keepers.

We must, however, be allowed to decide as to what shall, and what shall not, go into these columns. We are not running the American Bee Journal for the good of a few, but for the benefit of *all* who pay for it, and read it from week to week.

An Improvement in the Ferris Wax=Extractor is noted in the Bee-Keepers' Review. A screw and follower has been added, which can be applied while the slumgum is still under steam heat. "It would seem," says Editor Hutchinson, "as tho this left nothing further to be desired in the line of wax-extractors." The only wonder is that an improvement in use so long a time in Europe should not sooner have been introduced into this country.

Trials of a Bee=Supply Dealer.—We have no doubt that a very interesting as well as a large and amusing volume might be written on this subject, could only one-half of the experiences of bee-supply dealers be gotten together. It was our good fortune, or misfortune, to have been initiated into the variegated bee-supply-dealing field when in the employ of the former owners of the American Bee Journal. We then became familiar with a few of the unreasonable people who somehow have drifted into bee-keeping, and we still frequently hear of some of the trials that they cause the overworkt supply-dealer to whom they send their little orders.

And isn't it strange that usually the chap who wants only a total of 75 cents worth of sections, foundation, shipping-cases, etc., is almost sure to have more "kicks" to offer than the man that orders $75 worth at a time?

A supply-dealer once received an order for a few pounds of brood foundation which was to be of sheets 16 and *seven*-eighths inches long. It so happened that foundation 16 and *six*-eighths inches long was unintenionally sent, and perhaps it was just the slightest shade darker in color than the former order received by the customer.

Well (would you believe it?), that bee-keeper actually complained, saying he could not use the foundation that was just *one-eighth* inch shorter that he ordered, without cutting strips to fill up that one-eighth space in the frames! He also found fault with the color of the foundation, claiming that it was of second quality, etc., when it was of the very best manufacture in this country, of pure beeswax, and of excellent color for brood foundation. Suppose it wasn't as clear as some other—it would answer every purpose for brood foundation, for in a year or two it would be no darker than would be any kind of foundation used in the brood-chamber.

When the customer was written to, and kindly informed that there was not sufficent difference to make any real difference, either in the length of the sheets or the color of the foundation, he replied that he wisht it understood that he proposed to run his own business, and intimated that no bee-supply dealer need attempt to interfere, either. He really expected the dealer to go to the expense of at least a dollar to exchange the few pounds of foundation, so that the sheets might be one-eighth inch longer, and the color—perhaps no lighter. The dealer offered to bear half of the expense, but that didn't suit Mr. Bee-Keeper.

There should be reason exercised in all things, and we believe that nearly all bee-supply dealers are glad to meet a customer half way, or do what is right in all cases. But some people seem determined to be dissatisfied, no matter how great an effort is put forth to please them. And, ten chances to one, in two or three years such will be entirely out of the bee-business, where they should have remained in the first place.

Another experience: A dealer recieved an order amounting to less than $1.50—the whole thing making just a small package—one that would probably be lost or smasht if sent by freight, so it was sent by express. It called for less than 20 brood-frames, besides some other goods. When received the customer opened the parcel, and immediately wrote that it was short perhaps a half dozen frames, and intimated that they were purposely omitted; that if the error was not immediately corrected, he would warn others to extend their patronage elsewhere, etc. He also complained because the order was sent by express instead of freight.

Other illustrations might be given, but we will not take up space to tell of them. Let the ones mentioned suffice to teach this lesson: If you must enter a complaint, do it in a courteous way, and give the dealer a chance to correct any errors, before denouncing and threatening him. If you don't, he will likely put you down as a confirmed crank, and prefer to spend his time, and efforts to please, upon some more worthy specimen of humanity.

Again, don't "go for" the dealer unless there is something really worth mentioning. If you havn't confidence in a dealer's honesty, his goods, and his desire to give satisfaction, don't patronize him. He will be more than pleased to have you send elsewhere, especially if you are anything like the two cases we have mentioned. Life is too short, and the busy season with the bee-supply dealer is too trying any way, to spend much time with unnecessary complaints.

Of course, we believe in fair play, and full justice to all, but we also believe that all concerned would be happier, live longer, and succeed better, if a little reason and consideration were exercised by those would get the best service from their bee-supply dealer.

York's Honey Calendar for 1900 is a 16-page pamphlet especially gotten up to create a demand for honey among should-be consumers. The forepart was written by Dr. C. C. Miller, and is devoted to general information concerning honey. The latter part consists of recipes for use in cooking and as a medicine. It will be found to be a very effective helper in working up a home market for honey. We furnish them, postpaid, at these prices: A sample free; 25 copies for 30 cents; 50 for 50 cents; 100 for 90 cents; 250 for $2.00; 500 for $3.50. For 25 cents extra we will print your name and address on the front page, when ordering 100 or more copies at these prices.

Dr. Miller's Honey=Queens are offered as premiums, on another page, for sending us new subscribers to the American Bee Journal. The offer is limited to our present regular subscribers, and the queens are to be mailed in rotation, beginning about June 1st, so first come first served. Look up a new subscriber, send in his name with $1.00, and we will enter your order for a Dr. Miller Honey-Queen.

Northern
Italian Queens!

Reared by the best methods from my GREAT HONEY-GATHERERS. Price, $1 each. Orders for queens to be filled in rotation beginning June 1st. Ready to book orders NOW.

ADA L. PICKARD,
RICHLAND CENTER, WIS.
Please mention Bee Journal when writing.

SPRAYING with our new patent Kerosene Sprayers is simple indeed. Kerosene emulsion made while pumping. 12 varieties sprayers, Bordeaux and Vermorel Nozzles, the "World's Best."
THE DEMING CO., SALEM, O.
Western Agents, Henion & Hubbell. Chicago. Catalogue and formulas free.
Please mention Bee Journal when writing.

50c Italian Queens reared from the best honey-gathering strains in America, under the most favorable conditions, by the Doolittle method. No in-breeding. Untested, 50 cents each; half dozen, $3.00; one dozen, $5.75.

W. J. FOREHAND,
19Dtf FORT DEPOSIT, ALA.
Please mention Bee Journal when writing.

The American Poultry Journal
325 Dearborn Street, CHICAGO, ILL.

A Journal that is over a quarter of a century old and is still growing must possess intrinsic merit of its own, and its field must be a valuable one. Such is the

American Poultry Journal.
50 cents a Year. Mention the Bee Journal.

BARNES' FOOT POWER MACHINERY

Read what J. I. PARENT, of Charlton, N. Y., says: "We cut with one of your Combined Machines, last winter, 50 chaff hives with 7-in. cap, 100 honey racks, 500 brood-frames, 2,000 honey boxes, and a great deal of other work. This winter we have double the amount of bee-hives, etc., to make, and we expect to do it with this Saw. It will do all you say it will." Catalog and price-list free.

Address, W. F. & JOHN BARNES,
5Ctf 995 Ruby St., Rockford, Ill.
Please mention Bee Journal when writing.

The Rural Californian

Tells all about Bees in California. The yields and Price of Honey; the Pasturage and Nectar-Producing Plants; the Bee-Ranches and how they are conducted. In fact the entire field is fully covered by an expert bee-man. Besides this the paper also tells you all about California Agriculture and Horticulture. $1.00 per year; 6 months, 50 cents. Sample copies, 10 cents.

THE RURAL CALIFORNIAN,
218 North Main Street, - LOS ANGELES, CAL.
Please mention Bee Journal when writing.

THE MODERN FARMER & BUSY BEE.
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MODERN FARMER,
9Ctf ST. JOSEPH, MO.
Please mention Bee Journal when writing.

GENERAL ITEMS

Wintered Nicely—Early Swarming.

Bees wintered nicely and are in good condition, but clover is not. Swarming commenced May 11—the earliest in my experience of 25 years.

FRANK MCNAY.
Columbia Co., Wis., May 28.

A Woman's Excellent Report.

I have 22 colonies, and last year I got over 1,000 pounds of honey from them. From 3 colonies I secured 144 pounds each. I had 6 supers on each one of them, and my friends here say that if they hadn't seen it with their own eyes they never would have believed it. I sold it at 15 cents per pound, and it was nearly all white honey, mostly from sweet clover. All of my last year's crop is sold except a few boxes of amber—perhaps 10 or 12 pounds.

I run exclusively for comb honey, and I have never shipt one pound. I have customers who take 300 or 400 pounds in a season, to retail.

MRS. COLIN BAIRD.
McHenry Co., Ill., May 20.

Wintered in Good Condition.

Our bees came thru the winter in very good condition, altho I had taken almost too much honey from them last fall. I will try not to do that again, for it made me feel badly and seemed like something was saying to me, "I have been hungry and you have not fed me." I have not lost a single colony out of 19. They commenced swarming about a week ago, and had a good time on fruit-bloom. So far we have had one of the finest springtimes in 25 years. Wheat looks very fine.

F. B. WEDEL.
McPherson Co., Kan., May 17.

Colonies Building Up Finely.

Bees are building up finely this spring, some swarming as early as April 10. My winter loss was about 2 percent, while it was 60 percent hereabouts. White clover is beginning to bloom in extra-sheltered localities.

The Bee Journal is all right. How a bee-keeper can carry a dollar and do without it, passes my dull comprehension.

C. E. MORRIS.
Carroll Co., Iowa, May 26.

Willow-Herb Honey—Foul Brood.

As a result of so many fires in this State I expect a good yield of willow-herb honey. There has been a variation as to the wintering of bees here. Some bee-keepers have lost all of their bees, while others only a part.

My brother started a year ago this spring with 15 colonies, two being queenless. He increast them to 36 and took 1,490 pounds of honey during the season. All came thru the past winter, but he detects that dread scourge of foul brood, and is taking extreme

Sharples Cream Separators: Profitable Dairying

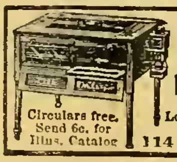
DITTMER'S FOUNDATION Wholesale and Retail

This foundation is made by an absolutely non-dipping process, thereby producing a perfectly clear and pliable foundation that retains the odor and color of beeswax, and is free from dirt.

Working wax into foundation for cash, a specialty. Write for samples and prices.

A full line of Supplies at the very lowest prices, and in any quantity. Best quality and prompt shipment. Send for large, illustrated catalog.

GUS. DITTMER, Augusta, Wis.
Beeswax Wanted.
Please mention Bee Journal when writing.



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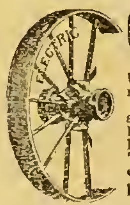
Thousands in successful operation.
Lowest priced 1st-class hatcher made.
GEO. H. STAHL,
114 to 122 S. 6th St., Quincy, Ill.
Circulars free. Send 6c. for Illus. Catalog
44A26t Please mention the Bee Journal.

BEE-SUPPLIES 40-page CATALOG FREE. Goods are the BEST. Prices are right. We can save you some on freight. Enquire of us.
7Dtf JOHN NEBEL & SON, High Hill, Mo.
Please mention Bee Journal when writing.

PATENT WIRED COMB FOUNDATION
Has no Sag in Brood-Frames.
Thin Flat-Bottom Foundation
Has no Fishbone in the Surplus Honey.
Being the cleanest is usually workt the quickest of any foundation made.
J. A. VAN DEUSEN,
Sole Manufacturer,
Sprout Brook, Montgomery Co., N.Y.

BEE-SUPPLIES!
Root's Goods at Root's Prices
POUDER'S HONEY-JARS and everything used by bee-keepers. Prompt Service—low freight rate. Catalog free. WALTER S. POUDER,
512 Mass. Ave., INDIANAPOLIS, IND.
Please mention Bee Journal when writing.



GOOD WHEELS MAKE A GOOD WAGON.
Unless a wagon has good wheels it is useless. THE ELECTRIC STEEL WHEELS are good wheels and they make a wagon last indefinitely. They are made high or low, any width of tire, to fit any skein. They can't get loose, rot or break down. They last always. Catalog free.
Electric Wheel Co., Box 16 Quincy, Ills.
Please mention Bee Journal when writing.

IF YOU WANT THE BEE-BOOK
That covers the whole Apicultural Field more completely than any other publisht, send $1.25 to Prof. A. J. Cook, Claremont, Calif., for his
Bee-Keepers' Guide.
Liberal Discounts to the Trade.

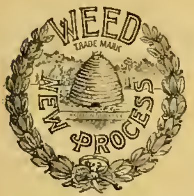
Here we are to the front for 1900 with the NEW
CHAMPION CHAFF-HIVE,
a comfortable home for the bees in summer and winter. We also carry a complete line of other SUPPLIES.
Catalog free. R. H. SCHMIDT & CO.
Sheboygan, Wisconsin.
Please mention Bee Journal when writing.

Root's Column

If you would secure a good crop of honey, you should aid the bees by providing them with

The A. I. Root Company's Weed New-Process Foundation,

which is known by these trade marks:



MANUFACTURED BY
TRADE MARK
THE A. I. ROOT CO.
MEDINA OHIO.
A I R
U.S.A.
BEE KEEPERS SUPPLIES.

The Weed New-Process Foundation has been indorst by experiment stations and agricultural colleges as well as by private individuals. Wherever it has been placed in competition with ordinary Foundation it has been found that the bees will not only take to it more quickly, but will draw it out more fully. The result is that sections containing the Weed New-Process Foundation will be filled and capt over sooner than those containing the old process.

Our Foundation is put up in pasteboard boxes holding 1, 2, 3, and 5 pounds, respectively, also in neat wooden boxes of 5, 10, 15 and 25 pound sizes. Bee-keepers will find it a great convenience to get their Foundation in these regular packages, as it is sure to reach them in first-class order. Parties who buy in considerable quantities to supply their neighboring bee-keepers will find these small pasteboard boxes a great convenience, and to such we make a special rate which we will quote on application. Our prices are as follows:

Table of Prices of Root's Weed New Process Comb Foundation.

When you order, be sure to tell which grade you want, and give price.

Name of Grade.	Size and sheets per pound.		In lots of— 1 lb	5	10	25
Medium brood	7¾x16⅞	7 to 8	48	46	44	43
Light brood...	7¾x16⅞	9 to 10	50	48	46	45
Thin super....	3⅞x15½	28	55	53	51	50
Extra thin	3⅞x15½	32	58	56	54	53

You are likely to find right in the midst of the honey harvest that you are short of Foundation. Do not lose dollars by neglect, but order a box of Root's Weed New-Process Comb Foundation at once.

You can get this Foundation promptly of any of the following dealers. Send to dealer nearest you and save heavy transportation charges.

J. M. Jenkins, Wetumpka, Elmore Co., Ala.
The L. A. Watkins Co., Denver, Colo.
George W. York & Co., 118 Mich.St., Chicago, Ill.
Vickery Bros., Evansville, Ind.
W. S. Pouder, 512 Mass. Ave., Indianapolis, Ind.
Jos. Nysewander, Des Moines, Iowa.
Carl F. Buck, Augusta, Butler Co., Kans.
Rawlings Implement Co., Baltimore, Md.
M.H.Hunt & Son, Bell Branch, Wayne Co., Mich.
Geo. E. Hilton, Fremont, Newaygo Co., Mich.
John Nebel & Son, High Hill, Mont'g Co. Mo.
C. H. W. Weber, 2146 Central Ave., Cincinnati, O.
A.F.McAdams, Columbus Grove, Putnam Co., O.
Buell Lamberson, 180 Front St., Portland, Oreg.
Prothero & Arnold, Du Bois, Clearfield Co., Pa.
Cleaver & Greene, Troy, Bradford Co., Pa.
J. H. Back & Son, 235 West 3rd North St., Salt Lake City, Utah.
The A. I. Root Co., 1024 Miss.St., St.Paul, Minn.
The A. I. Root Co., Mechanic Falls, Maine.
The A. I. Root Co., Syracuse, N.Y.
The A. I. Root Co., 10 Vine St., Philadelphia, Pa., and many other dealers.

THE A. I. ROOT CO.,
MEDINA, OHIO.

measures to stop it. He is using carbolic acid with apparently good results.

The recent extreme drouth (just broken last night), with the cold, has been against the bees, and caused much chilled brood over the country.

D. Reid Kirkpatrick.
Kalkaska Co., Mich., May 28.

Expects an All-Right Year.

My bees are doing fine this year. I never have seen them in better condition this time in the season than they are now. If the weather continues the same this will certainly be an all-right year.

R. D. Minehart.
Linn Co., Iowa, May 30.

Not a Good Bee-Land.

Bees are not working much at present—kind of "on the loaf." Pasture is scarce, and we have to depend upon a fall flow. There is very little white honey for we have had too much rain and too many cool days. It is warm enough now, and the dagos swarm some, but not like they do on a good flow of honey. This will never be a good bee-land, for the clovers do not take well with us, and we have no hills to grow buckwheat on. But I intend to keep a few bees for the fun there is in it. I have 48 colonies.

Sampson Stout.
Cowley Co., Kans., May 30.

Italians on Red Clover.

I have learned something new today about bees, and that is, my Italians are working strong on red clover. My father is 60 years old, and never saw bees work on red clover before this, to speak of. I certainly am well pleased with the queens I have received from some breeders whose advertisements are in the American Bee Journal, and I have it demonstrated to a certainty that tongues of Italians are longer than those of blacks, from a practical standpoint. I counted something like 4 Italians to 10 feet square of red clover, and no blacks; while in an adjoining field of white clover I saw many blacks and few Italians.

Ray Co., Mo. David M. Kite.

Winter Losses a Fifth to a Half.

In this section of Ontario bees have not wintered as well as they did a year ago. The losses run from one-fifth to one-half. We had a short crop of honey last season, and I attribute the losses to lack of vitality, as bees did not breed up much last season after the short honey-flow was over, consequently they went into winter quarters short of young blood and vitality.

Honey has been sold very clean in this Dominion, so if we get a crop there will be no old honey to stand as a barrier to a fair price.

Wm. Filmar.
Ontario, Canada, May 29.

Late After-Swarms.

On page 213, S. B. Smith tells of after-swarms issuing 21 days after the prime swarms. Mr. Hasty, on page 310, says that they were "seconds" mathematically but not bee-ologically. "Localities" differ. I had an experience once that proves to me that it is

California Queens.

OF PURE ITALIAN STOCK.
(THREE-BANDED.)

No other bees within a radius of TEN MILES. Eight years' experience in practical bee-keeping. Untested Queens, 90 cts. each; $9 per doz. Discounts after July 1. Write for price-list.

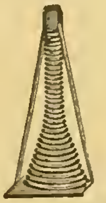
18A13t **H. L. WEEMS, Hanford, Calif.**

Please mention Bee Journal when writing.

POULTRY PAPER [illegible] illustrated and UP TO DATE. [illegible] free. Mention this paper. **Inland Poultry Journal, Indianapolis, Ind.**

EGGS From Barred **PLYMOUTH ROCKS** Thorobred, Fine Plumaged Fowls. Farm Raised—75c per dozen.

MRS. L. C. AXTELL, Roseville, Ill.
15Atf Please mention the Bee Journal.



Queen-Clipping Device Free....

The Monette Queen-Clipping Device is a fine thing for use in catching and clipping Queens wings. We mail it for 25 cents; or will send it FREE as a premium for sending us ONE NEW subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,

GEORGE W. YORK & COMPANY,
118 Michigan St., Chicago, Ill.

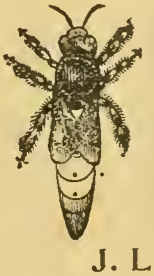
FREE FOR A MONTH....

If you are interested in Sheep in any way you cannot afford to be without the best Sheep Paper publisht in the United States.

Wool Markets and Sheep has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.

WOOL MARKETS AND SHEEP, CHICAGO, ILL.

QUEENS!



One Untested Queen.....	$ .80
One Tested Queen	1.00
One Select Tested Queen	1.25
One Breeder...............	2.00
One-Comb Nucleus.......	1.00

All Queens ready to mai on receipt of the order.

Breeders are from last season's rearing.

Send for price-list of Queens by the dozen.

J. L. STRONG,
14Atf CLARINDA, Page Co., IOWA.
Please mention Bee Journal when writing.

JUST THINK OF IT!

Only 3 or 5 cents a rod more for PAGE Fences.
PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.
Please mention Bee Journal when writing.

Rocky Mountain Bee-Plant Seed!

(*Cleome integrifolia.*)

...FREE AS A PREMIUM...

The A B C of Bee-Culture says of it: "This is a beautiful plant for the flower-garden, to say nothing of the honey it produces. It grows from two to three feet in hight, and bears large clusters of bright pink flowers. It grows naturally on the Rocky Mountains, and in Colorado, where it is said to furnish large quantities of honey."

We have a few pounds of this Cleome seed, and offer to mail a ¼-pound package as a premium for sending us ONE NEW subscriber to the American Bee Journal, with $1.00; or ¼ pound by mail for 40 cents.

GEORGE W. YORK & CO.
118 Michigan St., CHICAGO, ILL.

The Bee-Keeper's
Guide
Or, Manual of the Apiary,
—BY—
PROF. A. J. COOK.

460 Pages—16th (1899) Edition—18th Thousand—$1.25 postpaid.

A description of the book here is quite unnecessary—it is simply the most complete scientific and practical bee-book publisht to-day. Fully illustrated, and all written in the most fascinating style. The author is also too well-known to the whole bee-world to require any introduction. No bee-keeper is fully equipt, or his library complete, without THE BEE-KEEPERS' GUIDE.

This 16th and latest edition of Prof. Cook's magnificent book of 460 pages, in neat and substantial cloth binding, we propose to GIVE AWAY to our present subscribers, for the work of getting NEW subscribers for the American Bee Journal.

Given for TWO New Subscribers.

The following offer is made to PRESENT subscribers only, and no premium is also given to the two NEW subscribers—simply the Bee Journal for one year:

Send us TWO NEW SUBSCRIBERS to the Bee Journal (with $2.00), and we will mail you a copy of Prof. Cook's book FREE as a premium. Prof. Cook's book alone sent for $1.25, or we club it with the Bee Journal for a year—both for only $1.75. But surely anybody can get only TWO NEW SUBSCRIBERS to the Bee Journal for a year, and thus get the book as a premium. Let every body try for it. Will YOU have one?

GEORGE W. YORK & CO.,
118 Michigan Street, CHICAGO, ILL.

BY RETURN MAIL.
Golden Beauty Italian Queens,
Reared from imported mothers.

Untested, 50 cts.; 12 Untested, $5.50; Tested, $1.
J. S. TERRAL & CO., Lampasas, Texas.
18Atf Please mention the Bee Journal.

possible that Mr. Smith's swarms were second swarms, both mathematically and bee-ologically.

I had a powerful colony of Italians, from which a nice prime swarm issued with a laying queen. I listened for piping on the 7th, 8th and 9th days, but heard none. On the 16th I heard piping, and on the 21st an after-swarm issued. On the 22nd a third swarm issued.

This goes to show that when the prime swarm issued no preparations had been made for swarming. Will some one explain why the young queen waited five days after she came from the cell before she issued with the swarm?

W. T. STEPHENSON.

Massac Co., Ill.

Bee-Keeping in Snowland.

I may say I have just started on a small scale in bee-culture. I succeeded in securing two colonies of bees last season, and three others this season, and the increase of last season, in all 8 colonies. Last season was unusually wet, but this year so far is fine, and the bees are doing well.

I am living in a very extreme northern latitude, and have been repeatedly told by the best bee-authorities in Ontario, Canada, that bees will not live thru the severe winters. On one occasion I sent $15 to a bee-keeper in Ontario, and requested him to forward me two colonies; he immediately returned the money, and told me he had 200 colonies for sale, but thought it unfair to ship bees to a country which he knew they could not reach alive, and, if they did they could never come thru the long and severe winters we have in northwest Canada.

A friend of mine came here to look up the country two years ago this month, desiring to move here. He bought a farm, and went back that fall for his

$5.00 per month will pay for medical treatment for any reader of the American Bee Journal. This offer is good for 3 months ONLY—from May 1 to Aug. 1. Dr. Peiro makes this special offer to test the virtue of small price for best medical services. Reply AT ONCE.

DR. PEIRO,
34 Central Music Hall, CHICAGO.

Please mention Bee Journal when writing.

Bee-Supplies!

We are distributors for ROOT'S GOODS AT THEIR PRICES for southern Ohio, Indiana, Illinois, West Virginia, Kentucky, and the South.

MUTH'S SQUARE GLASS HONEY-JARS
LANGSTROTH BEE-HIVES, ETC.

Lowest Freight Rates in the country. Send for Catalog.

C. H. W. WEBER,
Successor to C. F. MUTH & SON,
2146-48 Central Ave., CINCINNATI, O.

Italian Queens $1.00 during May and June. Nothing sent out but beautiful Queens, from our best workers. Safe arrival guaranteed.
D. J. BLOCHER,
22A4t Pearl City, Ill.

The Mississippi Valley Democrat
—AND—
Journal of Agriculture,
ST. LOUIS MO.

A wide-awake, practical Western paper for wide-awake, practical Western farmers, stock-raisers, poultry people and fruit-growers, to learn the science of breeding, feeding and management. Special departments for horses, cattle, hogs, sheep, poultry and dairy. No farmer can afford to do without it.

It stands for American farmers and producers. It is the leading exponent of agriculture as a business, and at the same time the champion of the Agricultural States and the producer in politics. **Subscription, One Dollar a Year.**

☞ **Write for Sample Copy**

ARE YOU FULL OF GINGER? If you want health and vigor, good appetite and sound sleep, take LAXATIVE NERVO-VITAL TABLETS, the quick and safe cure for Constipation, Nervous Dyspepsia, Insomnia, Nervous Affections, the "Blues" and all attendant evils. It aids digestion, purifies the blood, strengthens the nerves, improves the appetite, induces sweet sleep, tones up the whole system and makes you a new creature. It not only makes you *feel* well, it makes you *really* well. It gives you that vim and vigor which makes life worth living.

LAXATIVE NERVO-VITAL TABLETS

f.B.W.fo.

It contains no narcotics nor bromides nor other injurious drugs. We give the formula with every box. You know exactly what you are taking. Originally put up for physicians' use. Ask your druggist for a FREE SAMPLE. If he hasn't it, don't take a substitute, but send us a stamp for our book on "Health" and we will send you a free sample, sufficient for you to try it and test its merits to your own satisfaction. *Isn't it worth trying free?* It positively cures. Price 10c and 25c per box. Don't delay sending.

The Modern Remedy Co., Kewanee, Ill.

family and effects, to come here. Last spring, before leaving, I talkt the bee-question to him, and told him to bring me two colonies, and not to heed what people might say.

About two weeks before he left for here he sent me a card saying that the people all told him that it was no use to bring the bees. On receipt of his card I wired him, "It is not the business of your people, but my own. Bring the bees without fail." He did, and in addition to mine he brought one colony for himself, and to the astonishment of many, and myself, he wintered his bees out-of-doors on the summer stands, and they came thru all right. I wintered mine in the cellar. I put them in Nov. 7, and took them out on Good Friday, this spring, all right.

I am more than delighted with my enterprise. The bees I got this spring cost me $16 per colony, on arrival here—$6.85 express charges, and $7.00 per colony for the bees first cost, $1.50 for a new hive, and 75 cents for cartage from here to Edmonton, our nearest station. They are pure Italians—beautiful bees.

I am not dissatisfied, altho the outlay is much more than it would be in the East; still, I am more than pleased with my bees. I am only beginning to understand them. I have been reading up this winter all the bee-books I could find, and the American Bee Journal is the third I am subscribing for.

G. T. MONTGOMERY.

Alberta, Canada, May 21.

BEEDOM BOILED DOWN

The Value of Comb Foundation.—If you use only a starter, you will save about five cents on each frame. Is that a real saving in the long run? Let us see. With only starters you may count on the bees building drone-comb in the different frames, in some more, in some less, in all enough to make a full frame of drone-comb. You have saved 40 or 50 cents on foundation by using starters, but you have this drone-comb. Instead of having reared in that drone-comb bees that will add to the wealth of the colony, you will have those that will be only a bill of expense. It will cost as much to rear them as to rear workers, and they will have to be fed as long as they live. Suppose you are unusually fortunate, and have only half a frame of drone-comb in all in the hive. It will take as much to rear the drones as to fill the same comb with honey, and after the two or more broods of drones are reared they will eat a lot of honey, so it will easily make you a frame of honey less than you would have if you had all worker-comb. That honey will be easily worth 50 cents each year. The comb will last 30 years, but if it should only last 10, that will make a loss of $5 to offset your saving of 50 cents. Where are you now?—National Stockman.

Bleaching Travel-Stained Comb-Honey.—I will try to tell how we bleach travel-stained honey. We first fumigate with sulphur, then place the

BEE-KEEPERS: If you want your supplies to arrive at your railroad station in neat and perfect condition, free from dirt and damage ordinarily resulting from railroad handling; and if you want your orders filled promptly with the very finest goods in the market, send to

G. B. Lewis Co., Watertown, Wis.
—U. S. A.—

THOUSANDS OF BEE-HIVES, MILLIONS OF SECTIONS READY FOR PROMPT SHIPMENT.

Lewis Foundation Fasteners are selling like hot-cakes. Customers who have received one of these new machines pronounce it the finest, and write us that it is worth more than our price, which is only ONE DOLLAR, without lamp.

BRANCHES:
G. B. LEWIS Co, 19 So. Alabama St., Indianapolis, Ind.
G. B. LEWIS Co., 515 First Ave., N. E., Minneapolis, Minn

AGENCIES:
L. C. WOODMAN..........Grand Rapids, Mich.
FRED FOULGER & SONS..........Ogden, Utah.
E. T. ABBOTT, St. Joseph, Missouri.
Special Southwestern Agent.

SEND FOR CATALOG.

Please mention Bee Journal when writing

The New RUMELY Thresher will save enough extra grain in threshing to pay the taxes of the ordinary farm. It combines the **apron and vibrator principles and is as far ahead of other threshers** as they are in advance of the man with a flail. They thresh fast enough and have capacity enough to suit the thresherman, and it

Threshes Clean enough to suit the most exacting farmer. Last indefinitely. Send for free catalogue of **Threshers, Traction, Portable and Semi-Portable Engines, Horse Powers, Saw Mills, etc.**

M. RUMELY CO., LA PORTE, IND.

Please mention Bee Journal when writing.

FREE OX-BLOOD TABLETS for thin blood people. — Nervousness, Indigestion — Rheumatism—Female Disease—Brain Food. A SURE CURE......

This preparation contains in a concentrated form the active principles of healthy bullock's blood combined with the most valuable nerve, brain, blood and flesh producing drugs known to the practicing fraternity.

Greatest discovery of the age for suffering people. Less than a year since first put in use, and thousands are being cured every day. To convince you we give a 3 weeks' treatment free—all we ask is for you to send 10 cents to pay postage on sending it. This is safer than paying a doctor $25 to experiment on you. **3 weeks' treatment sent free on receipt of 10 cts. in stamps.**

TESTIMONIALS:

W. A. HENDERSON,
Dear Sir:—Enclosed find 50 cents for which please send me a 50-cent box of your Ox-Blood Tablets. The 3 weeks' treatment that you sent me free did all you claim for it. GEO. FILLMAN.

From MRS. CARRIE OWENS, Clarinda, Iowa.
I cannot say enough in praise of Ox-Blood Tablets. I have suffered everything for months with a hurting in my head and a stomach trouble. After persistent efforts to get relief from other remedies and failed, I was cured with one box of Ox-Blood Tablets.

50 cts. a box or 6 for $2.50. Address, W. A. HENDERSON CO.
Masonic Building, Des Moines, Iowa.
17D2t

Please mention Bee Journal when writing

Four Celluloid Queen-Buttons Free

AS A PREMIUM.

OUR TOIL DOTH SWEETEN OTHERS

OUR TOIL DOTH SWEETEN OTHERS

For sending us ONE NEW SUBSCRIBER to the Bee Journal for the balance of this year, with 50 cents, we will mail you FOUR of these pretty buttons for wearing on the coat-lapel. (You can wear one and give the others to the children.) The queen has a golden tinge. This offer is made only to our present regular subscribers.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate, it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

Prices of Buttons alone, postpaid: One button, 8 cts.; 2 buttons, 6 cts. each; 5 or more, 5 cts. each. (Stamps taken.) Address,

GEORGE W. YORK & CO., 118 Michigan St., CHICAGO.

Please mention the Bee Journal when writing Advertisers.

combs where the sun will shine on them, and that is the whole process.

I build a frame on the south side of my honey-house, and cover the same with cotton-cloth. A door opens from the honey-house into this room. I place shelves on the side and ends of this room, the bottom shelf being a wide board to be used as a table. I place the combs on these shelves so that the sunlight will strike them. Dark combs will require several hours. This plan will whiten dark combs here in California. If you fumigate a few combs, then place them on a window-sill where the sun will shine on them, you will be convinced.

In placing the sections on shelves in the morning, I find the following plan good: On the shelves at the east and west end of the room I place sections end to end lengthwise of the shelves, two rows on each shelf, one row on the outer, and the other on the inner edge. The morning sun strikes one side, and the afternoon sun the other side. On the front shelves I set them crosswise of the shelf, far enough apart *so as not to shade each other*.

I pack them away every evening; all not white I put out again next morning. Some of them will bleach quite slowly, but I have been able to whiten the worst ones by perseverance.—A. E. WHITE, in Gleanings in Bee-Culture.

Texas.—The Central Texas Bee-Keepers' Association convenes in seventh annual convention, at Hutto, Tex., July 12 and 13, 1900. All are cordially invited to attend. Excursion rates, and no hotel bills to pay.

Hunter, Tex. LOUIS SCHOLL, Sec.

H. G. Quirin, the QUEEN-BREEDER, is as usual again on hand with his improved strain of

Golden Italian Queens

Our largest orders come from old customers, which proves that our stock gives satisfaction. There is no bee-disease in our locality. We have 12 years' experience in rearing queens, and if there is any one thing we pride ourselves in, it is in sending all queens promptly **BY RETURN MAIL.** We guarantee safe delivery.

Price of queens before July 1st:

	1	6	12
Warranted as queens average	$ .75	$ 4.25	$ 8.00
Selected, warranted	1.00	5.00	9.50
Tested	1.50	8.00	15.00
Selected tested	2.00	10.50	
Extra selected tested, the best that money can buy	4.00		

Address all orders to
H. G. QUIRIN, Parkertown, Erie Co., Ohio.
(Money Order Office, Bellevue, O.)

23A16t Please mention the Bee Journal.

WANTED To Exchange—30 colonies of BEES of 8-frames each, valued at $3.00 each, for beeswax.

H. VOGELER, New Castle, Calif.

Please mention Bee Journal when writing.

Adel Queens, $1 Each.

Send postal for dozen rates and description of bees. **HENRY ALLEY, Wenham, Mass.**

23Atf Mention the American Bee Journal.

M. H. HUNT & SON,

SELL ROOT'S GOODS AT ROOT'S PRICES. Our inducements are first-class goods, cheap freight rates, and prompt shipments. Send for catalog. **BELL BRANCH, MICH.**

Please mention Bee Journal when writing.

Italian Queens Finely markt—from freshly imported NEW stock. By mail, price, $1. Address all orders to

WILLIAM DELINE,
23A4t WYMORE, NEBRASKA.

Please mention Bee Journal when writing.

Fruitful Fields of Waste-Places.

The great West contains vast stretches of the richest land, which needs only water to transform into fruitful fields. In many places also the water is available, but running to waste, and all that is needed is the expense of labor to create farming lands of the most profitable character, and at nominal prices.

The possessor of an irrigated farm is in a measure independent of the weather. The drouth at the seeding or in the growing time or rain at the time of harvest have no terrors for him, but he can apply water when and in quantities as needed to produce the largest yield, and pursue his harvest at his leisure, sure of a full yield and a perfect product.

There are many thousands of irrigated systems in successful operation; in fact, this is perhaps the oldest and most scientific system of farming. Many systems have also failed because the promoters have over-reacht themselves in trying to acquire riches by bonding and stocking such systems too heavily, and expecting the settler to step under and shoulder the load, which he is wisely wary of doing.

Some prominent members of the rural press have undertaken to make a large body of about 100,000 acres of very valuable land near Denver, Colo., available by the application of water, utilizing for the purpose the joint funds of those who want to occupy or invest in the land. In this way the lion's share of the profits, which usually goes to enrich the capitalist who supplies the funds, is saved to the purchaser of the land. As a consequence, the settler or investor is supplied with land and water at a mere nominal price without subsequent charges for water rental. In addition also under the plan the pioneers—those who subscribe for portions of the first 10,000 acres of the tract, and thus supply the initial capital—are given a share in the profits which will result from the sale of the water-rights to the balance of the tract, town lots, etc. There is reason to believe sufficient profit will be made, even while selling the land and water-rights to the balance of the tract at a nominal price to eventually pay each back the amount of his original investment, giving these pioneer purchasers their land and water free. The first subscribers are also given a concession of over one-third in the purchase price.

Another commendable feature of the plan is that each of these pioneer purchasers, being interested, becomes an active agent in assisting in selling the balance of the trust. Also this very liberal policy insures rapid settlement and a rapid sale of the balance of the tract.

The plan is proving a great success. From the announcements in one farm paper alone over 8,000 acres of the first division of 10,000 acres have been subscribed for in about 4 weeks' time. Twelve other influential farm papers have now been enlisted in the work, so that it will be widely and influentially advertised.

There are about 2,000 acres of the first 10,000 left. If any of the readers of this paper want an irrigated farm, or to invest money in a substantial way to great advantage, they will do well to investigate at once, while the opportunity remains to get in on the ground floor.

The land is adjacent to two trunk lines of railway, only 36 miles from Denver. That city and the mines afford a home market at good prices for all products. Five tons per acre of alfalfa per year can be produced upon this land. There is also an unlimited stock range adjacent. The opportunities for stock, dairying or poultry-raising are above the ordinary. Also grains, vegetables and fruits may be produced in more than ordinary abundance.

The climate of Colorado is proverbial

for its excellence. Those seeking a better climate or to better their material condition, especially renters who want to become farm owners, or young men with some means seeking farms, will find this the opportunity of their lives.

As soon as the first 10,000 acres are taken the remaining lands and water rights will be sold at advanced rates, but on payments running 10 years, to give all a chance.

A party of 16 farmers from different States went out on an excursion May 1 to investigate, all of whom approved of the project and subscribed for land and water-rights. Another large excursion will go out June 5. The date of the next will be June 19. The rate, one fare plus $2.00 for the round trip. Tickets can be obtained at your home office. Take any route going to Denver and meet at the office of the Company, 1025 17th St., Denver, Colo.

James W. Wilson, editor of the National Rural, Chicago, Ill., who has establisht several settlements upon a like liberal plan, is the father of the plan. Those who want to investigate further should send at once for maps and literature, which can be had by addressing, THE RURAL PRESS CO., 79 Dearborn St., Chicago, Ill.

The Emerson Binder

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

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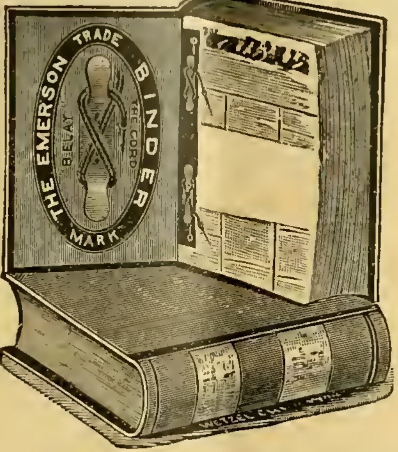
THE EMERSON TRADE BINDER MARK
BELAY THE CORD

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, April 19.—Market is well cleared of white comb honey; a little choice has sold recently at 16c, but dark and mixt goods are slow of sale. Extracted, white, 8@9c; amber, 7@8c; dark, 6@7c, according to quality and package. Beeswax in good demand at 28c.
R. A. BURNETT & CO.

CINCINNATI, March 3.—There is some demand for extracted honey from manufacturers at 7@7½c for amber and Southern; clover, 8@8½c. Comb honey is selling firm at 14@16½c in a small way. Beeswax, 25@27c.
C. H. W. WEBER,
Successor to Chas. F. Muth & Son and A. Muth.

BOSTON, March 9.—Our honey market is showing some signs of lower prices, altho the stock on hand is not large. At the same time prices are so much higher than previous years that the trade have taken it very slowly and the results are that the holders are willing to range prices quite a little in order to move stock on hand. Prices range: Fancy white, 17@18c; No. 1, 15@16c; amber, 10@12c; buckwheat almost unsalable. Extracted, best white California, 8½c.
BLAKE, SCOTT & LEE.

KANSAS CITY, May 9.—We quote: No. 1 white comb, 14@15c; No. 1 amber, 13@14c; No. 2 white and amber, 13@13½c. Extracted, white, 7½@8c; amber, 7c. Beeswax, 22@25c

The receipts and stock of honey on hand are light; demand fair. C. C. CLEMONS & CO.

DETROIT, May 24.—Fancy white comb, 15@16c; No. 1, white, 14@15c; amber and dark, 10@12c. Extracted, white, 7c; amber and dark, 5@6c. Beeswax, 25@26c.

Supply and demand for honey both limited.
M. H. HUNT & SON.

BUFFALO, April 20.—For strictly fancy white one-pound comb honey we are getting 16@17c. Any grade sells high—10@15c, as to grade.
BATTERSON & CO.

NEW YORK, May 21.—Our market is practically bare of comb honey, and there is a good demand for white at from 13@15c per pound, according to quality and style of package. The market on extracted is rather quiet, and inactive. New crop is slow in coming in, and prices have not yet been establisht. Beeswax holds firm at 27@28c. HILDRETH & SEGELKEN.

SAN FRANCISCO, Apr. 25.—White comb, 11½@12½c; amber, 8@10c. Extracted, white, 7½@8c. light amber, 7@7½c; amber, 5@5½c; Beeswax, 26@27c.

Small quantities of new crop have been received, but not enough has been yet done in the same to clearly define values. Current quotations would not likely be sustained under anything like free offerings. The yield will undoubtedly prove light, and the market shows a generally firm tone.

OMAHA, Mar. 13.—Demand shows some improvement in January, having been much more active, but as anticipated there is no advance in prices. Market remains steady at 14@14½c for fancy white comb and 8½c for white extracted. The latter is pretty well cleaned up along the Missouri River, and it looks as if there would be some shortage before another crop comes in. From present appearances there is about enough comb honey to go around at the present prices, hence we look for no particular change in values.
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No 707—Extension Top Surrey, with double fenders. Complete with side curtains, aprons, lamps and pole or shafts. Price, $80. As good as sells for $40 more.

No. 180—Double Buggy Harness, with nickel trimmings. Price complete with collars and hitch straps, $22. As good as sells for $30.

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Queens UNTESTED ITALIAN, 70 cents each; tested, $1 each. Queens large, yellow and prolific. Circular free.
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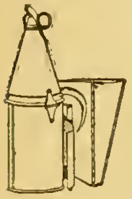

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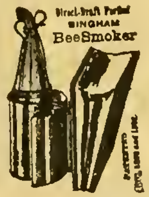

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To say to the readers of the BEE JOURNAL that

DOOLITTLE...

has concluded to sell QUEENS in their season during 1900, at the following prices:

1 Untested Queen	$1.00
3 Untested Queens	2.25
1 Tested Queen	1.25
3 Tested Queens	3.00
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3 " " Queens	4.00
Select Tested Queen, last year's rearing	2.50
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Circular free, giving particulars regarding each class of Queens, conditions, etc. Address,

G. M. DOOLITTLE,
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DR. MILLER'S

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One Untested Queen Free as a Premium for sending ONE New Subscriber to the American Bee Journal for one year.

We have been fortunate in making an arrangement with DR. C. C. MILLER—the well-known honey-specialist—to rear queens EXPRESSLY FOR US DURING THE SEASON OF 1900. These queens will be mailed in rotation, beginning about June 1, so "first come first served." We are ready to book orders now.

The Queens Dr. Miller will send out on our orders will be precisely the same as those he rears for his own use, so of course they will be from his best stock. His best colony in 1899 had a queen reared in 1898; May 5, 1899, it had brood in 4 frames, and he gave it at that time a frame of brood without bees. It had no other help, but May 25 a frame of brood with adhering bees was taken from it, and the same thing was repeated June 3, leaving it at that time 5 frames of brood. It stored 178 sections of honey, weighing 159 pounds (and that after July 20, in a poor season), being 2⅔ times the average yield of all his colonies. A point of importance is the fact this colony did not swarm, and an inspection every week or 10 days showed that at no time during the entire season was there even so much as an egg in a queen-cell. Dr. Miller expects to rear queens from this one during the coming summer.

The demand nowadays is for BEES THAT GET THE HONEY when there is any to get, and Dr. Miller has such bees. You will want to have a queen from his best, we are sure, even if she is not pure Italian.

Do not send any orders to Dr. Miller, as all orders MUST come thru us, according to our agreement.

Remember, send us $1.00 for ONE NEW SUBSCRIBER to the American Bee Journal for one year, and YOU will get ONE OF DR. MILLER'S UNTESTED HONEY-QUEENS FREE AS A PREMIUM. This offer is made *only* to our present regular subscribers. Orders for queens to be filled in rotation, beginning about June 1st.

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DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS.

40th YEAR. CHICAGO, ILL., JUNE 14, 1900. No. 24.

CONTRIBUTED ARTICLES

The Common Black, or Yellow, Locust.

BY JOHN R. SCHMIDT.

BETTER known by some as "honey"-locust is one of our most fragrant and beautiful honey-plants. Unfortunately it is seldom found in large numbers in any one place, and the nectar, which is borne more abundantly than in some other honey-plants which receive more attention but possessing less desirable qualities, seldom reaches the supers, and therefore this desirable honey-yielder is little known to the bee-keeping fraternity.

The tree is of very rapid growth, and blooms profusely when only a few years old. The specimen from which the sprig was taken to be photographt was planted seven years ago, then only a small sapling less than four feet high, and about three-fourths of an inch in diameter. Now, the thickest part of the trunk is five inches thru, and it was necessary to use a 12-foot ladder to reach some of the lowest branches. This will give some idea as to its rapid growth.

The blossoms make their appearance about the second week in May, and are of a creamy-white color, hang in clusters like so many bunches of grapes, and are intensely fragrant. The odor is so very pronounced that it often causes one to have a headache when the blossoms are smelled for any length of time, or when they are present in large quantities in a closed room.

Bees work upon these blossoms from morning until night, and the hum, when one is under a tree in full bloom, almost resembles that of a swarm clustering among the branches. Several times I have stopt and examined the tree to see if such were not the case.

The time of bloom which I have already mentioned make it a most desirable tree for the bee-keeper in this section, as it comes when there is nothing for the bees to work upon, and continues to bloom until the last of May, when white and sweet clover open our main honey-flow.

This tree, if planted in groves like linden or basswood, would rapidly mature and yield a good crop of honey each year. I do not remember ever seeing the bees fail to work upon it. These are its good points. Now I will mention some of its faults, as much as I know:

1st. The trees are always worm-eaten; that is, worms are always present in the wood, and they eat the very life out of the trees. This causes many dead branches and much dead wood among the trees when they become old.

2d. It is said they are very susceptible to lightning, and many people refuse to have them on their premises for this reason. Personally, I do not think them more so than the oak, but I have seen many large trees which were struck.

3d. Owing to the above faults, many trees soon lose their symmetrical appearance and beauty, and therefore are not so attractive in appearance as the linden and some others.

Hamilton Co., Ohio, May 19.

⁂

The Food of the Larval Bees.

BY PROF. A. J. COOK.

THE great difference between animals and plants consists in the fact that animals must digest their food, while the plant takes a food that needs no digestion. By digestion we mean the changing of food so it can be

Locust Blossoms.

absorbed or taken thru an organic membrane. We call this osmosis. A good definition, then, of digestion, is that it renders the food osmotic. It is often defined as the process of solution, or dissolving the food. This is not correct. Some substances are not osmotic, like the albumen of an egg or blood, altho these are liquids. These substances, then, must be digested or they can not be absorbed. There are other liquids of like nature. Some liquids, like cane-sugar, while readily soluble need digestion. Thus without doubt cane-sugar must be digested before it is absorbed into the blood. The bee does this with the cane-sugar of nectar, and thus changes it into the reducing-sugar of honey. When we eat honey the bee has done our digestion for us, but when we eat cane-sugar we must do it for ourselves.

The lowest branch of animals, the protozoa, have but a single cell, and are thus in structure like the yolk of an egg. These, of course, have no digestive canal, but they have a wonderful power of taking their food into themselves and digesting it, and thus are as truly animals as are we ourselves. The little microscopic amœba is one of these protozoas. Nearly all other animals possess an alimentary or digestive tube. I say nearly all, for some animals, like the tape-worm, have, in the economy of their lives, found places where their food is already digested, and thus need no digestive canal, so they have none. Doubtless they once had one, but thru disuse it was snatcht away. If we wish to keep our organs vigorous and intact we must use them.

The coral animals have a digestive canal, but only have a mouth-opening. The animals above the coral branch, if they have an alimentary canal at all, have a complete one; that is, a tube with an opening at each end. Most animals with a complete alimentary canal have the tube differentiated into mouth, œsophagus, stomach, small and large intestines. The bee is no exception to this statement. Thus in the bee we have a mouth, œsophagus, two stomachs, small and large intestines. The mouth of the bee, like our own, receives the salivary liquids, which, in their case, unlike ours, are the main digestive liquids. The œsophagus of the bee is small, and conducts from mouth to stomach. The honey-stomach is just above the true-stomach, and this is doubtless the seat of all honey-digestion. That is, the cane-sugar of nectar is changed to the reducing-sugar of honey, which is a mixture of dextrose and lævulose in this honey-stomach. This honey-stomach, then, is not comparable to the crops in chickens. The crop is simply a store-house for food, while this honey-stomach is really a true-stomach, in that digestion is done in it.

Succeeding the honey-stomach is the long, bent, true-stomach of the bee. This is considerably larger than the honey-stomach, and in this the digestion of the albuminoids or of the bee-bread or pollen takes place. There are many short tubes attacht at both ends to the true-stomach. These were once thought to act as does the liver of higher animals. But they are now known to be organs of excretion, and so answer to our kidneys. Indeed, the structural difference is not great, for our kidneys consist of a great number of small tubules. In the bee these tubules, instead of being mast together, as in the kidneys, are separate. We know that these are kidneys in function, as urea has been found in them. These are often called malpighian tubules, which word is strangely misspelt in the last edition of the "A B C of Bee-Culture." The small and large intestines are probably little more than conduits for the waste of fecal matter. Doubtless digested material not absorbed in the stomach may be taken into the blood from the intestines.

There are very large glands in the head and thorax of all worker-bees. The upper head-glands of the thorax empty in the common tube just at the base of the ligula or tongue of the bee. There is little doubt that this secretion furnishes ferment which digests the cane-sugar of nectar. Its position and the large extent of the glands make this almost certain. The further fact that we know of no other source for this digestive liquid adds to the argument. It is marvellous how much the bee does at one time. It gathers honey, gathers pollen, and is at the same time hard at work digesting the honey in the honey-stomach. And added to this is its hard labor in flying from flower to flower, and in carrying its load of pollen to the hive. Bees have been found to make a mile in five minutes, altho loaded with nectar.

The lower head-glands empty on the side of the mouth. They look like a string of onions, and are very ample. Cheshire is assuredly mistaken in stating that these glands furnish the food for the larvæ. I have tried experiments which I shall speak of later, which entirely disprove this statement. Their real function is, without doubt, to digest the pollen or bee-bread, changing this into chyle, which process takes place in the true-stomach.

As we have said, the honey-stomach is the reservoir in which the honey is conveyed to the hive, and also the digestive cavity where the cane-sugar of nectar is changed to the reducing-sugar of honey. At the lower end of the honey-stomach is the little globular stomach-mouth, a curious little organ, which undoubtedly serves to obstruct the pollen-grains which are taken in with the nectar from this liquid as the bee is gathering or flying to the hive. If we quarter an apple and imagine the quarters slightly separated yet united at the peel by elastic rubber strips, we will have a close copy of this stomach-mouth. The inside of the quarters should be covered with long hairs which point downward. These quarters, as the bee is flying, are constantly opening and shutting. The nectar passes in between them, carrying the pollen-grains. As they close they pass the honey back into the honey-stomach, but the hairs hold on to the pollen-grains, and so they are constantly past thru the true-stomach where, as we have already seen, they are digested. The bee also takes the bee-bread from the cell into its mouth, mixes this with the secretion from the lower head-glands, already described, and then passes this into the true-stomach. Only the nurse-bees, or younger workers, possess these lower head-glands in full development. Thus the nurse-bees for the most part digest the proteid food.

A loose tube extending from the lower part of the stomach-mouth reaches down into the true-stomach. Thus unless the honey-stomach is drawn up this serves as a valve, preventing any regurgitation of the food from the true-stomach. But in case the bee wishes to regurgitate this chyle, as the digested pollen is called, it simply raises the honey-stomach, drawing this valve-like tube up. Thus it may or may not act as a valve at the pleasure of the bee.

The drones and queen have not the lower head-glands, and thus can not digest pollen. Thus the nurse-bees have to feed not only the larvæ, but also the drones and queen. The drones and queen are possest of the other glands. Indeed, they need them as the honey is not fully digested or changed into reducing-sugar, and the drones and queen take honey for food, and so need to digest it in part. Even a part of this digestion, as we have already seen, is performed by the worker-bees, as they digest the nectar *en route* to the hive.

As before stated, Cheshire argues that the secretion from the lower head-glands forms the food of the larval bees. As stated above, I have proved as have others, that this is an error. The nurse-bees digest the pollen, and probably add more or less honey, and jelly or chyle is the food of the larval drones and queen. We know that charcoal is entirely non-osmotic, that is, it can not be absorbed. Therefore if we feed charcoal to an animal it would never pass into the blood. I fed honey with finely pulverized charcoal mixt with it, to a colony of bees in confinement. The bees were not only feeding common brood, but also adding the royal jelly to queen-cells. I found the charcoal in the royal jelly, as also in the cells with the ordinary brood. This proves that this food is chyle, and so regurgitated from the true-stomach. If Cheshire were correct, this charcoal must have past thru the walls of the stomach and intestines into the blood, and again thru the walls of the lower head-glands to be mixt with the secretion of these glands. We know that this could never take place. As the larvæ food is chyle, this charcoal must of course pass with the chyle as it is regurgitated from the true-stomach.

Dr. de Planta has shown that the chyle fed to the queen-larvæ is quite different from that fed to drones and worker-larvæ. If this were as Cheshire holds, a secretion, we could not explain this difference. If, on the other hand, it is chyle, we can certainly see this, by adding more or less honey, its nature can be readily changed, as it must be by the nurse-bees.

A few years ago I announced the fact in the bee-journals, that honey is digested nectar. There was a great cry from the bee-men, fearing that their product might be injured by such statement. They had no need to be thus frightened, for the truth never hurts any one. Indeed, the bee-men should be glad to know and herald forth this fact. I feel sure that honey is a safer and better food than cane-sugar, and just for this reason, that the digestion is partly performed by the bees. There are few acts in all the culinary processes that are so neat and unobjectionable as is this wonderful transformation in the honey-stomachs of the "pets of the hive." If, as sometimes stated, cane-sugar is not so safe a food as honey and I think there is much reason for this opinion—then it is because of this previous digestion of the honey by our little industrious friends.

Los Angeles Co., Calif.

Spring and Early Summer Bee-Management.

Written for the Northeastern Ohio and Western Pennsylvania Convention,

BY MRS. E. J. CORNWELL.

WHILE thinking of the subject assigned me, it seemed that I must know how the bees had been prepared for winter the previous fall. I will consider that they have been wintered on the summer stands, in chaff hives, with plenty of stores of their own gathering in old combs, each hive weighing not less than 35 pounds. If we did our duty last fall and saw that they went into winter quarters with abundance, there is no need to trouble them in the spring, aside from cleaning the dead bees away from the entrance, and off the bottom-board, which may be done without disturbing the live bees.

Don't fool too much with your bees in the spring, especially if the weather is cold. Better not touch them at all, except when it is pleasant and warm enough for bees to be flying. If you lift out the combs you can easily chill the brood. Don't be in too great a hurry to take away the winter packing—better to leave it till settled warm weather. It is just as important to have them warm early in the spring as in winter, for they have commenced brood-rearing, and that requires warmth.

If you are not certain that your bees have plenty of stores to last them thru, go to the hive the first warm day that the bees are flying, and look for sealed honey along the top of the combs. If you find it there, you need not look further; but if no sealed honey is in sight, you would better lift out a comb, and if they have not plenty give them a comb taken from a stronger colony last fall, or some of those partly filled sections that were not good enough for market. If you can't give them honey, feed a syrup made from granulated sugar. Bees can not thrive upon scant supplies. Be sure that they never lack stores, for when stores run low the queen will stop laying, giving you a weak colony later on when it should be strong.

In spring, when but little honey is coming in, is the time to build up the colonies and have them strong for the honey-flow by and by. In the production of honey, either comb or extracted, the most essential thing is to have good, strong colonies at the right time. In this section the first honey and pollen is from the soft maples and willows; then along thru the blooming of the different fruits; and we often have swarms issue the last of May, owing to the large flow of honey during the blooming of the apple orchards. White clover is our main dependence for surplus honey.

The boxes for surplus honey should be put on at the first appearance of white clover blossoms, which may be seen about the middle of June, and we may look for sealed honey about the last of the month. Remove it as fast as finisht, and give new boxes to be filled; and from then on watch closely, both the boxes and the combs to be extracted, and remove them as fast as capt, and return new boxes and empty combs.

Do not be content to fill an upper story once, to be extracted in the fall, but remove the honey from the combs as fast as capt. It is important to attend to this at the proper time, for the honey-flow will not wait for other work to be done first. To make the apiary a success, it is important that the work should be done on time.

There are only three things necessary to successful bee-culture, viz.: "One should know what to do, how to do it, and then do it on time."

It is a matter of wonderment that so few farmers keep bees. Every farmer ought to keep bees on his farm for the proper fertilization of his crops; but aside from this he should keep bees for the honey they gather. Honey is the purest and most healthful sweet known; while it is considered something of a luxury it should be on every table, and certainly the farmer can gather it much cheaper than he can buy it. Thousand of pounds of this delicious sweet go to waste annually because there are not bees enough to gather it. Any farm, no matter how small, has room for a few colonies of bees.

Bees are great public benefactors in the fertilization of flowers, and day by day investigation reveals the importance of the honey-bee to plant life. In Germany it is estimated that the value of each colony of bees in the matter of fertilization alone is equal to ten dollars.

Ohio alone has 50,000 colonies, which produce annually 1,300,000 pounds of honey. You can readily see that the honey-bees contribute not a little to the value of the agricultural products of the State.

There is no doubt but that love for any pursuit is desirable if the best results are to be obtained, yet success is possible if the work be well done, even if doing it be not so agreeable to one's taste. But of all occupations bee-keeping leads to enthusiasm, even if not so pleasing at the start, and the more the little details are attended to the more is the interest aroused in the mystery within the hives; and if the little details are well attended to, and on time, there is no branch of farming that will pay better for the labor and money expended.

Ashtabula Co., Ohio.

Bees on the Farm—Their Advantages.

Written for the Stark Co., Ill., Farmers' Institute,

BY DR. C. C. MILLER.

YEARS ago it was a common thing to see a group of bee-hives standing near the farm-house, and the annual "taking up" of the heaviest and lightest was an event of interest, not only to the immediate family, but to the friends and neighbors less fortunate in the possession of the frugal honey-gatherers. At the present day one may travel many miles without even the sight of a hive. Keeping bees has become to a greater or less extent a business by itself, there being a comparatively small number of bee-keepers, each of them, however, keeping a considerable number of colonies of bees, ranging from 50 up into the hundreds, and in a few cases into the thousands.

This falling into the hands of specialists might be a good thing if they were evenly distributed over the country, but it results in a double loss when the apiaries are so distributed that any considerable portion of the country is out of the reach of the bees. The double loss comes from the double duty the bees perform. Very likely, if the average farmer were askt what double performance is expected of the bee, he would reply, "Making honey and stinging."

A magnified conception of the amount of stinging done is generally entertained. I get my full share of stings when working with the bees, perhaps an average of five a day thruout the season. A million bees may be flying in the course of the day, and I would rather that the five that sting me would turn their attention in some other direction; but think of the nine hundred and ninety-nine thousand, nine hundred and ninety-five that *don't* sting me!

No, stinging is not an important occupation of the honey-bee, not one bee in five thousand ever stinging a human being. A much more important occupation than stinging—aye, more important even than honey-gathering—is the fertilization of the flowers. If no apiary is kept within two or three miles of your farm, you will be wise to have at least one colony of bees, even if you are so afraid of them that you must enclose them with an eight-foot fence. If an important apiary is located near you, then it is unwise to attempt keeping bees. The ground is already occupied, and the ground may be overstockt with bees as well as with cattle.

Time does not allow to go fully into a statement of the work performed by bees in the way of fertilization, but mention may be made of one of the commonest fruits—the apple. The stamens are on the same apple-blossom with the pistil, and at first thought one would conclude that there would be no trouble about fertilization, for the pollen could hardly help falling from the stamens upon the pistil. But Nature seems to guard carefully against in-breeding, and in this case the pistil is no longer in a receptive condition when the pollen is ripe. In other words, the stamens and pistil of a blossom are not ripe at the same time, so no blossom is ever fertilized by its own pollen, but the pollen must be carried in some way from some other blossom, and the honey-bee is the chief performer in this service.

You are familiar with the two kinds of blossoms on cucumbers, squashes, and other vines; false and true blossoms they are called. Before it is in full bloom, enclose one of the true blossoms in netting close enough to prevent a bee getting thru. It may be so coarse that the wind might easily blow into it pollen from one of the staminate or false blossoms, but if no bee can enter it will blast.

If then, no bees are within two miles of you, it will pay you well to keep bees, even if you never get an ounce of honey from them.

A few words about honey: Physicians say that much of the trouble in kidney diseases, and diseases of the stomach and intestines, comes from the sugar that is eaten, the difficulty being that the cane-sugar must be changed after it is eaten, but honey does not need the same change, hence is a more wholesome article. Children have an intense love for honey, and it is for their health that such craving be satisfied. Give them bread and honey: unless wrongly trained, they do not care for butter with it. Honey is much cheaper than butter, better for them.

Some say, "Honey never agrees with me." Neither would many another article agree with you if you should make a pig of yourself and eat a lot of it after taking a full meal. Let honey be eaten in moderation as part of the regular meal, and you will easily become accustomed to it. In Germany it is not an infrequent thing to hear of people of great age attributing their long life to the use of honey.

McHenry Co., Ill.

Some Difficulties in Connection with Foul Brood

Written for the California State Bee-Keepers' Convention,

BY THOS. WM. COWAN.

THOSE who have had very much to do with foul brood will readily admit that, for the average bee-keeper, there are many and serious difficulties in connection with this disease which baffle him, and can be overcome only by an intelligent mastery of the subject. The disease is allowed in many cases to break out and spread, without the slightest precaution being taken, sometimes thru ignorance, carelessness, or indifference on the part of the bee-keeper, to the detriment of others keeping bees in the vicinity. In consequence of this it is no wonder that foul brood is spreading, and that there is a demand among intelligent bee-keepers in all countries for legislation to prevent the industry from being destroyed. To be brief and concise, I will mention only some of the difficulties we have to encounter to make people understand the conditions under which the disease exists, or to study its etiology.

1. That foul brood is terribly contagious, and that as great care should be exercised in dealing with it as with smallpox or cholera. What these diseases are to man, foul brood is to bees.

2. That foul brood is a germ disease, and is produced by the presence of a minute organism called *Bacillus alvei*, which exists in two different forms. In the earliest stages of its existence it is in the form of a rod, and is usually then termed *bacillus*, to distinguish it from the latter stage, or *spore*, as it is then commonly called.

3. That there is a great difference between these two stages, and as both may exist in the hive at the same time, the treatment that would destroy the one would have no effect upon the other.

4. That *Bacillus alvei* is in form rod-shaped; and each rod, as it attains full growth, splits in two, each of these taking up an independent existence, and going thru the same process; and as two generations can be reared within one hour, the same rate of progression being kept up by each individual, it is not astonishing that foul brood spreads so rapidly.

5. That under certain conditions bacilli have the power of forming spores which are analogous to seeds or plants, and are endowed with wonderful vitality, being able to endure adverse influences of various kinds, without injury so far as their germinating powers are concerned. Boiling water and freezing will kill bacilli, but not their spores. In the same way chemical reagents which readily destroy bacilli have no effect upon the spores, unless given in such strong doses as would kill the bees. (It is extremely difficult to make people understand this great difference in the vitality of bacilli and their spores, and it is here that the great danger arises.)

6. That spores coming in contact with suitable nutrient material have the power to germinate into bacilli, after the lapse of long periods; and according to Dr. Klein, one of our best authorities, there is no reason to assume that these periods have any limit. That is why the disease sometimes breaks out in districts where bees have not been kept for years.

7. That experience has shown with foul brood, as in all epidemic diseases, the weak, sickly, and badly nourisht are attackt and become centers of infection to others; and so rapidly does the disease spread by contagion that, unless precautions are taken, a whole neighborhood may become affected in a short time.

8. That colonies suffering from foul brood are usually weak, and this induces bees from other hives to rob them of their honey, and thus carry off the germs of the disease along with their ill-gotten gains.

9. That combs which have contained foul brood retain the spores. The queen lays eggs in the cells, and the workers deposit their honey and pollen in them. Both honey and pollen in this way become vehicles for the transport of the disease to the larvæ in the process of feeding by the nurse-bees. The workers, in endeavoring to clean the combs, scatter the spores, which may also be driven out of the hive by the current of air produced by the fanners at the entrance in their endeavor to rid the hive of foul odors.

10. That, if on examining the combs, to all appearance healthy, with brood compact and larvæ bright and plump, we find here and there a cell with young larvæ moving uneasily, or extended horizontally instead of being curled up, and changing to a pale yellow color, we at once detect the first symptoms of foul brood. The germ at this stage being only in the rod form, the further progress ot the disease can be arrested by feeding the bees with syrup, to which a suitable antiseptic drug is added. The bees then generally remove the dead larvæ.

11. That apart, however, from experienced bee-keepers or trained experts, very few are fortunate enough to detect the disease at such an early stage, or effect a cure so easily.

12. That when the combs have irregular patches of brood, with sunken and perforated cappings to the cells containing the putrid, coffee-colored, ropy mass inside, the treatment should be:

a. If the colony be weak, destruction of bees, combs, frames, and quilts, together with thoro disinfection of hives, is by far the best course to pursue. We thus destroy the spores, and so remove the source of infection.

b. If, on the contrary, the colony be still strong, the bees may be preserved by making an artificial swarm of them, and feeding them on medicated syrup for 48 hours, after which time they can be placed in a clean hive furnisht with sheets of foundation, and fed with medicated syrup for a few days longer. The combs, frames, and quilts are burned, and the hive disinfected by being either steamed or scrubbed with boiling water and soap, and then painted over with a solution of carbolic acid; and when the smell has disappeared, the hive is ready for use. (The bees are allowed to remain 48 hours in the empty hive, for by that time the honey that they may have taken with them, and which might contain spores, will have been consumed, and the diseased bees will have died off.)

13. That in his endeavors to rid his apiary of foul brood, the bee-keeper must also raise to its proper standard the lowered vitality of the bees which enabled the disease to get a footing. This he must do by keeping his bees strong with young and prolific queens, good wholesome food, cleanliness, and proper ventilation.

14. That the bee-keeper may himself be a cause of spreading foul brood by indiscriminately manipulating, first diseased and then healthy hives, without taking the precaution to disinfect himself or his appliances. Clothes, appliances, and hands should be washt with carbolic soap, and other articles disinfected by spraying with some suitable disinfectant.

These are only a few of the many difficulties, and only the fringe of the subject has been toucht upon; but sufficient has been said to show that, unless great precautions are taken, it is very difficult to get rid of the disease. It thus becomes obvious that those who fail to realize the danger of infection, and who will not take proper means of ridding their apiaries of foul brood, or of preventing its introduction, are a real danger to the industry.

Relieving the Pressure on the Queens.

BY HARRY LATHROP.

I PRESUME a good many bee-keepers are engaged these days in doing the same work that I am, that is, relieving the pressure on the queens, by giving them more room. A year ago at this time bees were destitute of stores in this locality, and the combs became dry and devoid of honey or brood. Now the problem is, How to prevent restricting of the queens by reason of there being so much honey and pollen in the combs.

To-day I have been going over one of my yards, adding extra stores in all cases where it seems necessary, adhering to my rule not to take from strong colonies in order to build up the weaker, but giving them plenty of room and allowing them to become as strong as they may.

I do not always pursue the same course in giving extra room. In some cases I give the queen access to the added set of combs; in others I remove one or two combs containing the most honey from the brood-chamber, place them in the super that is to be added, replace by the same number of empty combs in the brood-chamber, and keep the queen below with an excluder. This will give more room, retard, if not prevent, swarming, and insure a strong colony, as all the combs in the brood-chamber will be full, or nearly full, of brood as soon as the queen lays in the two empty combs given. And the two removed and placed in the upper story will contain more or less brood that will hatch and augment the already strong colony.

A little later, when the white honey season has well begun, I will reduce many of these two-story colonies (I use 8-frame hives), and give them one or two supers of sections in place of the upper stories. Swarming may, or may not, result. If swarming does result, I will manage to keep the working force together. The upper stories removed will be placed on weaker colonies (or on any colony that I think will not do good comb-honey work) for the production of extracted honey.

FULL SHEETS OR STARTERS IN SECTIONS—SEPARATORS.

I am using full starters of extra-thin foundation, but have not as yet tried bottom starters. It seems to me that putting foundation in sections is the most tedious work a bee-keeper has to do; and, as far as my experience goes, it can not be delegated to cheap help. One of the largest producers of fancy comb honey in this State will not trust this work to any one but himself. He produces straight combs in 7-to-the-foot sections without separators. I get part of my crop without separators, and for part I use the regular 1⅞-inch section with separators, and don't know which is the better.

Well, bee-keepers, I hope to see you all as members of the National Bee-Keepers' Association, at Chicago, next August. Green Co., Wis., May 29.

THE AFTERTHOUGHT

The "Old Reliable" seen thru New and Unreliable Glasses.
By E. E. HASTY, Richards, Ohio.

HOUSE-APIARY AND WINTERING.

The house-apiary of Notre Dame, as we see it on page 273, looks substantial, and made to endure. You see an institution is not expected to terminate with one man's life. And how happy is the honey market of a college! The youths who are so sincerely interested in the Commons Hall three times per diem will not haggle over the question whether the product of the apiary is estimated at 5 cents a pound or at 50 cents a pound. Down she goes all the same. Instructive circumstance that the house has wintered its bees well for six years, the hives, but not the house, being packt. I'll venture to guess that that Kentucky 11-year-old queen was in three successive volumes unbeknownst to the keeper. And so Mr. Chrysostom would like to go on a crusade against cellar-wintering and the loose-hanging frame! Well, as the bumpkin said of Niagara, "What's to hinder?" He'll find the Saladins on the other side a smiling, and not very belligerent, lot.

GETTING THE MOST INTO AN EXCLUDER.

Say, Grimes, it's not to get the most out of it, but to get the most *into* it, that's the main thing anent the excluder. Most of us can get out somehow or other whatever gets in. Interesting to see that so able an operator as Grimes succeeds with communication to the super only around the outside, all the middle being thin board. This critic conjectures that some strains of bees will stand that all right, and that some will not stand it at all. Page 275.

METHODS OF CONTROLLING INCREASE.

The method of controlling increase given by John R. Schmidt, page 275 (double every spring and unite down one-half every fall), I think to be well up to the high water mark of our present knowledge. Still, we shall not be entirely satisfied with our "hoss" and his training until we can make him whoa. Moreover, once in awhile there will come a destroying winter that will sweep away two-thirds of the consolidated one-half; and *then* we will regret that every good colony was not allowed to try its luck. Mr. Schmidt's method of *repeatedly* moving the parent colony from one side to the other of the new one seems to be good—or would be if it did not require such close attention.

And Mrs. Snyder, she is one of a small army at work on another controlling scheme—let the colony become two, and then wheedle both into one again without waiting for winter. This scheme subdivides naturally into two schemes, the perambulate-'em-round method, often called the Heddon method, and the put-'em-up-stairs method, which we have immediately under consideration. Interesting to see that Mrs. S. finds newly hatcht bees, emerging under unnatural conditions, to perish in large numbers from hunger, and from being hustled by their elders. Page 276.

BEES ROBBING—FEEDING-WHISKEY NONSENSE.

Mr. Dadant doeth well to remind the greenhorns (whose legs and arms are sticking out of the world's windows all around) that a man cannot take a colony of bees and "sic 'em on" to his neighbor's bees, as if they were dogs. They would go for a colony in his own yard first. Sorry he didn't say right out that the idea of feeding bees whiskey to make them rob must be considered rank nonsense until some proof of its success is shown. May succeed to the extent of getting the inebriated colony robbed by a sober one adjacent. And robbing once begun may run a long course. Page 276.

POINTS ON SPRAYING FRUIT-TREES.

Mr. Holtermann makes two excellent points about the spraying question. If a spray kills leaves (and it sometimes does), the essential parts of a flower are more tender than leaves, and therefore more liable to destruction—the horticulturist biting his own nose off, as it were. And the man who would fain spray in full bloom might profitably receive by mail a card with the spraying law printed on it. Page 277.

ONION HONEY FOR WINTER STORES.

I hope Mr. McBride has it a little too rank. I still want to think that a big field of onion bloom might not *always* prove a curse in a barren season. Doubtless the hives smelt bad; but perhaps the practical result *might* have been the same had the bees stockt up for winter on some other second-rate bloom. Page 286.

THE BELGIAN HARE AUXILIARY.

Happy the bee-man be's of late,
He's found a boom for his ebbing fate;
Yea, found for his biz a running-mate;
It's the Belgian hare, which the world shall ate,
All born and bred in an onion-crate.—Page 292.

Still something within me cries out that starting an auxiliary business is the first step towards abandoning the bee-business altogether.

WHERE TO PLACE BAIT-SECTIONS.

Place bait-sections in the center to get reluctant or weak colonies started quickly, but around the corners if to encourage even work thruout the case. Guess that is about correct, Mr. Aikin. But I thought I was almost the only one contrary enough to put in baits with old honey in them—and lo, he steals my dirty trick! Shake, brother! The ups and downs of super work do not exactly correspond with the gains and halts of the honey-flow, as shown by the scale colony. Yes, that's so, too. Page 289.

PUSSY-WILLOW AS A NECTAR-YIELDER.

I think that the statement made on page 295, that the pussy-willows yield no honey, should be taken with considerable allowance and margin for different localities and weather. Very likely it is not common for it to yield enough honey to increase visibly the amount on hand in the hives.

EMPTY BOTTLES FOR HIVE-STANDS.

Set the hive on empty brandy bottles, eh? Four, with the necks driven into the ground. Some of the brethren will think the suggestiveness of that a little too strong. Dr. Miller, if you don't drink brandy you can use beer-bottles. Also, those who have got onto the trick of using oil instead of butter can use oil-bottles—a relief to find some use for them for which they do not have to be cleaned. But still, my preference is strong in favor of having things fixt so bees cannot cluster underneath a hive. If you do use bottles, crowd the vacant space full of sawdust or cinders just the same.

Our comrade was also going it strong when he stuck to his efforts to have queens get to laying up-stairs until he had lost an even 50 queens—with no success to balance. Page 290.

TWO KINDS OF PRICES.

"Decide what prices ought to be, and then stand by those prices." Page 295. That sounds like the millennium —but that isn't here yet. Alas, in the noddles of bee-folks, all the same as other folks, the "price that ought to be," and the highest price that can be extorted from the buyer, get swapt in the cradle, somehow.

ROBBER-BEES AND BALLED QUEENS.

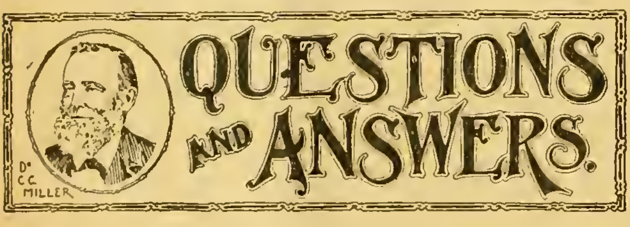
On page 297, that quotation from a foreign bee-paper, about the foolishness of thinking that robber-bees ball a queen, is probably all right in the main. Robbers are indeed there for honey—not for reginacide—but perchance no one interferes, and after awhile the honey is gone, and the hive is filled with a miscellaneous crowd largely new comers, who are like a city mob, "the more part know not wherefore they are come together." Who wants to guarantee the queen's life, then? Not I. And I doubt whether mysterious balling comes as often from young alien bees, as Mr. Mulor thinks. More than half the time her own children do it, I suspect. They think wrongly that she needs superseding. More strictly speaking, they don't think at all; but it is part of their duties to supersede when there is little young brood and little scent of fertility in the hive. Unfortunately, these same lacks come about in famine times without the queen's being to blame, and they are unable to discriminate.

THAT CALIFORNIA COMB FOUNDATION IMPROVEMENT.

If Mr. Vogeler's patent wrinkle concerning foundation proves to be of decided value he'll have a lovely time keeping possession of it—it is so easily done—just a brush and some melted wax. Easy to see that natural comb in process of construction always has a rim at the mouth of each cell. This rim is steadily moved upward by pinching. But I opine that side-walls will have to be higher than we usually see in foundation before rims can be brusht on. Page 297.

VALUABLE "SMASH" HONEY IN CANAAN.

Another peculiarity of that Canaan honey of Connecticut, which you overlookt, Editor York, is that producing it in brood-comb and recovering it from the smash of a tree makes it worth 20 cents a pound. Page 297.



CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

What to do with Frames of Comb and Honey.

Geo. H. Adkins, (on page 348) should not think of melting up the combs left by those 44 colonies that died, but should bend himself to the task of having them all occupied by bees before the summer is over. If they are kept in a cool, dry cellar, worms will make progress in them very slowly. A damp cellar will do if a dry one is not to be had, and will prevent progress of the worms just as well, but the combs are more likely to be moldy. Occasionally the combs may be lookt over, and wherever the web of a worm is seen the worm can be dug out with a wire-nail. Under each of the six colonies a hive full of combs can be put, and it will be all the better if the bees are obliged to pass down thru the lower hive to find an exit. After the bees have had this hive-full of combs for a few days, perhaps for a week, another hive-full can be put between the lower story and the one containing the colony.

When the first swarm issues, or is made artificially, use for it a hive full of combs that have been cleaned up by the bees (a swarm is likely to object to being put on unclean combs), and a few days later this swarm can have a hive full of combs put under to be taken care of, and later another. In this way, as increase goes on, you can have an additional number of combs cleaned up and kept clean, and if the original 6 be increast to 17, all your combs can be in the care of the bees. Even supposing the original 6 becomes only 13, in which case all would be likely to be quite strong—you can put not only two stories of combs under the colony, but you can put a story over the colony.

I have had 3 hive fulls of combs taken care of in this way: The 3 stories were piled over the colony, and from the colony was taken a frame of brood with adhering bees to put in the upper story. This had the effect to oblige the bees to traverse all the stories in going from the lower story to the brood in the upper. A hive full of combs could also be put under the colony, thus making the pile 5 stories high.

That keen-eyed observer, E. E. Hasty, albeit he claims not to see as well as he would like, hints on page 342 a fear of infantile death in the 5-story arrangements. Mr. Hasty, no doubt the matter could be arranged to that effect, but as a matter of fact my bees have taken good care of the brood in these upper stories. C. C. MILLER.

Young Bees Flying—Width of 10-frame Hive—Langstroth's Book.

1. When young bees take their first flight, do they not run up the side of the hive before flying, just like robbers do?

2. What is the width of a 10-frame dovetailed hive?

3. Is there much difference between the editions of "Langstroth on the Honey-Bee" of 1862 and the present one revised by the Dadants? OHIO.

ANSWERS.—1. Not generally so much "up the side of the hive" as on the alighting-board. Then they fly circling with their heads toward the hive, and a novice sometimes thinks they are robbers.

2. 14 and ⅞ inches, inside.

3. A great difference.

Bees Killing Each Other—Brood Died—Italianizing—Sowing for Honey.

I have one colony of Italians that kill each other. They seem to be diseased in some way. Some of them vary in size and color, some being as black as coal. They just fight and kill each other at the entrance of the hive. They were all right early in the spring, and were the prettiest Italian bees I ever saw. Is it bee-paralysis? What ought I to do with them? I had a colony affected in that way in 1898, but they are all right now.

2. I have a young swarm that (most of) the brood died about the time it was two-thirds grown, and the bees would carry it out. It looks very much as if it had starved. It is not ropy, and looks very white except on its abdomen, which looks dark. I took it away from the bees and gave them some more combs. What is the matter? What is the remedy?

3. I have 22 colonies of bees, the most of them blacks, and I want to Italianize them. Can I divide the Italians into 2-frame nuclei and rear queens that will be all right? If so, when will be the best time? Any information about queen-rearing will be appreciated. I have tried dequeening a colony and supplanting them with eggs to rear a queen, but it takes some time and does not give a well-mated queen every time; besides, the whole colony loses too much time. I think that by rearing several queens in small hives I can test them before I introduce them.

4. Will buckwheat do well to sow after wheat? We harvest about June 1st.

5. Will sweet clover do well this far South? GA.

ANSWERS.—1. Very likely it is bee-paralysis, and you can only hope it will disappear as it did before. Many remedies have been given, but so far nothing that seems reliable.

2. It looks like starving, and, if so, all is no doubt well by this time. Still, so much trouble is coming lately from new diseases that one cannot but feel uneasy, and if the trouble continues it might be well to consult Dr. Howard or Mr. McEvoy, who are experts in such matters.

You cannot rear good queens without their costing something. You can divide a colony into a number of small nuclei and let each start its own cell and rear its own queen, but I wouldn't take such a queen as a gift. Don't think of having cells started in anything but a strong colony and leave them there at least until they are sealed. Better not give a cell to a nucleus until within a day or two of the time for the queen to emerge. If you want to rear several queens, it will pay you well to have Doolittle's book on queen-rearing. In the meantime here is a plan you may take to start a few: Build up your best colony strong by giving frames of hatching brood from other colonies, unless it is already very strong. Not sooner than a week after giving the last frame of brood, take away the queen with one or two frames of brood with adhering bees, and put in a hive on a new stand. Ten days later put this hive with the queen back on the old stand and take away the hive of queenless bees. Make nuclei from the contents of this hive, putting one of the nuclei (the weakest) on the stand from which the queen has just been taken. Put two frames of brood in each nucleus, and let each nucleus have at least two good-looking cells. If the cells are buncht on one or two combs, you must cut them off and fasten on the combs that need them, using a common wire-nail to fasten them on. Do not leave a cell on the bottom of a frame, but cut it off and fasten where it will be sure to be kept warm by the bees. If you gave sufficient brood from other colonies to bring your best colony up to 20 frames of brood or more, you will have no trouble in starting 10 or more nuclei.

4. It may do well unless too late, and some farmer in your locality who has tried it could tell better about it.

5. Sweet clover will probably do well with you, and is perhaps the best thing to sow specially for bees.

A Queenless Colony.

As I was going past my neighbor's place he called me in to see a colony of bees. They were good and strong, but they were rearing all drones, not a worker among them. They had a queen nearly hatcht. Will the queen be any good? They have no queen alive with them.

COLORADO.

ANSWER.—It is possible that a played-out queen had been laying drone-eggs almost entirely, but among the few worker-eggs one had been used in a queen-cell, in which case the young queen will be all right. More likely the queen-cell "nearly ready to hatch" contains only a drone, and will never hatch. The chances are many to one that the best thing you can do is to break up the colony.

Bees Affected With Foul Brood.

I have a colony of bees in which there is a number of combs half full of dead brood. The caps are sunken, and the brood is coffee-colored. When I stick the point of my pocket-knife into a dead larva, it draws out in one thread about an inch. Some time ago the bees began to cluster out, and I raised the front of the hive about one-third inch. Shortly after came on a cold spell, and as the dead brood is mostly in the front of the hive, I thought they might be chilled.

1. Does the "back presentation" always accompany foul brood?

2. If more brood keeps on dying, so that I am sure it is foul brood, what course would you advise me to pursue?

MICHIGAN.

ANSWER.—1. If by "back presentation" you mean the young bees are in their cells wrong end foremost, it may be said that it does not always accompany foul brood.

2. I don't believe I should wait to be any more sure about it, but would at once burn up the whole business, or bury it beyond the hope of resurrection. Better get Dr. Howard's book on foul brood, from the American Bee Journal office, by sending 25 cents.

Young Brood Hatching and Dying.

I am in trouble with my bees, and would like to know what is wrong with them. As fast as the young brood hatches they go out and die. I have 60 colonies, and two weeks ago they were nearly ready to swarm; to-day they are no better than when I put them out. I have been 5 years in the business, and never saw the like before. They are not starving, as they have honey. All drone-brood cappings I shaved off, and let the bees carry out the larvæ. I did that this year for the first time. I would like to know if that would cause the trouble. What would be good for it?

CANADA.

ANSWER.—From the description given it is impossible to tell what is the trouble. It is not likely that shaving the drone-brood has anything to do with it. You do not say whether it is confined to one colony, or how many. Possibly it is spring dwindling, altho rather late for that. Possibly poison may have something to do in the case. It is to be hoped that by this time they have recovered without further loss.

Affected With Bee-Paralysis.

I have a colony of bees that have something ailing them. They crawl out of the hive, and are dragged out by the other bees, and they look as if they had been varnisht, and somewhat swollen. They crawl over the ground, and have a tremulous motion of the wings; they seem to be unable to fly. What is it? Is the disease contagious? What will cure them? The colony has swarmed, and both old and new are affected alike.

INDIANA.

ANSWER.—Bee-paralysis. No reliable cure seems to have been found, but as far north as Indiana the disease generally disappears without doing much damage, and does not appear to be contagious.

Buying Pure Extracted Honey.

How can I be sure, in buying extracted honey, that it is not adulterated? Where could I learn how to analyze it? I produce comb honey, but I buy quite a good deal of extracted for some of my neighbors who prefer it.

N. J.

ANSWER.—One of the best ways to be sure of buying pure extracted honey is to buy of an honest producer, or an honest dealer who says he knows the honey is pure. Unless you expect to handle large quantities of honey it is doubtful whether it would be worth while to be your own analyst. You can get honey analyzed by the chemist connected with your State University, and perhaps learn the process from him.

Perhaps Bee-Paralysis.

I have 3 colonies that act as if there was some disease working on them. The bees crawl out of the hive and are not able to fly, and the abdomen is black. They crawl off in the grass and die. What is the matter, and how can I get rid of it? All the rest of the apiary seem to be healthy and all right.

WASHINGTON.

ANSWER.—From your description it is probably bee-paralysis, and unfortunately no sure remedy is known. In the North it generally disappears of itself, but in the South it is a bad scourge. Very likely yours will not do any great damage.

Using Drawn Combs for Swarms.

As I am considerably short of surplus combs, and have a large amount of foundation to draw out, and can give only about two combs to each swarm in the brood-chamber (when hiving bees), would you put the two drawn combs in the center, filling up with foundation? or would you put one comb in each, outside?

ONTARIO.

ANSWER.—I believe I should do neither, but put the two combs together at one side of the hive. If the combs are in the middle, or one at each side, there is more chance for the bees to bulge the old combs into the foundation. With the two combs together at one side, they could do no more than to bulge into one side of one frame of foundation, and might not do that.

Dr. Miller's Honey-Queens are offered as premiums, on another page, for sending us new subscribers to the American Bee Journal. The offer is limited to our present regular subscribers, and the queens are to be mailed in rotation, beginning about June 10th, so first come first served. Look up a new subscriber, send in his name with $1.00, and we will enter your order for a Dr. Miller Honey-Queen.

AMERICAN BEE JOURNAL.
ESTABLISHT IN 1861. OLDEST BEE-PAPER IN AMERICA.
DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS.

PUBLISHT WEEKLY BY
GEORGE W. YORK & COMPANY,
118 Michigan Street, Chicago, Ill.

[Entered at the Post-Office at Chicago as Second-Class Mail-Matter.]

DEPARTMENT EDITORS:
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IMPORTANT NOTICES:

The Subscription Price of this journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "Dec00" on your label shows that it is paid to the end of December, 1900.

Subscription Receipts.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows you that the money has been received and duly credited.

Advertising Rates will be given upon application.

VOL. 40. JUNE 14, 1900. NO. 24.

EDITORIAL COMMENTS

NOTE—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England: — Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

To Kill Grass and Weeds About Hives, salt is quite commonly used. F. Greiner says in Gleanings in Bee-Culture that he has had some unpleasant experience with it, that if stock finds it there there will be no end of trouble, and much mischief may be done in a little time. Instead of salt he has used a solution of carbolic acid, but seems to prefer a solution of sulphate of copper, a pound to one or two gallons of water. Editor Root replies:

> "The sulphate-of-copper solution, I have no doubt, will do the work very thoroly; but will it do it as cheaply as an application of salt? It is our practice to buy a barrel of common rock salt, which is sufficient to take care of an apiary of 300 or 400 colonies for two or three years. Once or twice a year we sprinkle a very little salt around each entrance. Very often one application each year will answer, provided there are not too many rains, so as to start up the grass again."

The Variation in Honey-Yield seems to be considerable in more than one direction. There is alfalfa—one of the finest honey-plants in the world, according to a multitude of witnesses in several of the States of the West. But it is of no value whatever, according to the testimony of the few who have observed it in places east of the Mississippi. A difference in place or conditions makes all the difference between a valuable and a worthless plant for nectar. So it is with many other plants. Some, however, seem to do well everywhere. Sweet clover is a fair example.

The value of a plant also varies with the season. Some seasons white clover is an utter failure, altho blooming bountifully. Some plants vary greatly with the season in one locality, and almost not at all in another locality. In some locations buckwheat may be counted a success nine times out of ten, but in others a failure nine times out of ten.

With all this in view, it is not strange that there is conflicting testimony as to honey-plants. Lately one of the bee-editors express doubt whether bees got anything but pollen from dandelion. Mr. Davenport's report of 2,000 pounds of dandelion honey in one season settles the matter for at least one locality. A difference of testimony may come from the fact that in one locality a plant may be abundant, and scarce in another locality. If a man had a single plant of white clover, he might find it little visited by the bees, but would appreciate its value in the same place when acres were in bloom.

Another reason for variation lies in the fact that in one locality a certain plant may be the only kind in bloom, while in another locality it is entirely overshadowed by another and a better honey-yielder. Prof. Lazenby rates gooseberry rather low, but in another place it is highly prized, perhaps because no other plants are yielding at the same time.

The study of this subject is an interesting one, the limits of which are not easily reacht.

Drone-Cells vs. Dipt Cups.—H. L. Jones says in Gleanings in Bee-Culture: "I have repeatedly tried dipt cells and drone-comb cells in equal numbers on the same stick, and almost invariably got better results from the drone-comb." Editor Root stands up for the Doolittle cups, saying that their queen-breeder, Mr. Wardell, objects to new-fangled plans so long as he gets good results with plans that he knows *just how to work.* In a postscript, however, he says he is surprised to find that Mr. Wardell *has* been trying the drone-cells, and speaks favorably of them. But Mr. Root insists that the Doolittle cups are larger, stronger, and look more like peanuts.

Queen-Rearing is the special topic of the May Bee-Keepers' Review. Mr. H. E. Hill tells how he has cells built so as to be easily separable. Eighteen little square blocks are cut from a piece of section-box, and on each of these a queen-cell cup is fastened, each block being slid in a groove in a supporting slat, so the whole 18 are supported on the one slat somewhat after the manner of movable-block letters sometimes used in signs.

Mr. H. D. Burrell emphasizes the importance of rearing queens from a good mother, considering the working qualities of her progeny the first requisite, and beauty the last. All the workers should show three yellow bands, and hardiness in wintering, gentleness, comb-building, and large, uniform size of workers, should be considered in the order named. Drone-rearing should be encouraged in a few choice colonies, and suppress in others. He believes in strong colonies for queen-rearing, and the Doolittle plans. Not every one, however, would approve making cell-cups of a mixture of beeswax and rosin.

Mr. W. H. Laws, from a professional queen-breeder's stand-point, prefers for queen-rearing a frame half the size of the Langstroth frame, or about 9⅛ inches square. He makes these from Langstroth frames already occupied, by sawing off the projecting ends of the top-bar, then sawing thru the middle of the frame, comb, brood, and all, and nailing a top-bar on the raw edge. Thirteen of these small frames occupy one story of a hive, and two such stories make a full colony. Five of them are used for a nucleus. Whatever be the size of frame used, if queens are to be reared thruout the season, he thinks success can not be attained without having full colonies on the same kind of frames used in the nuclei.

Mr. W. H. Pridgen furnishes the prize article, which occupies (including illustrations) nearly nine pages. Mr. Pridgen is a genius. He has carried to great perfection the producing of Doolittle cell-cups, making them by wholesale so rapidly that some one with the proper apparatus should furnish them ready-made at a comparatively low price. Probably Mr. Pridgen is the man for this. One way of making them grinds them out with a crank! The forming-sticks project from the circumference of a wheel, and revolving the wheel allows each stick to dip in order in the melted wax. He goes into full details of the queen-rearing business, and any one intending to rear queens for the market will find this one article worth much more than a year's subscription to the Bee-Keepers' Review.

The Dr. Miller Honey-Queens.—Owing to the fact that Dr. Miller is receiving orders for queens which he can not fill, and also to avoid possible disappointment, he sends the following for publication:

Mr. Editor:—To save disappointment on the part of some who have written me ordering queens, I desire to say that I have no queens at disposal, having engaged them all to the publishers of the American Bee Journal. I hope no more will send orders or money to me, as I can only fill orders that come thru the American Bee Journal.

In reply to some who have askt that advance notice be given when a queen is to be sent, I may say that in all cases notice will be sent a day in advance of mailing the queen.

I am a little afraid that some will be disappointed in getting queens that are not handsome, nor the mothers of yellow bees. They are bred for work, and not for color. Some will be as good as the stock from which they are bred, and no doubt some will fall much below. Those who get untested queens must take the chances. The only thing I can be entirely sure about is that the mother of the queen sent out has proved to be the mother of workers that have given unusually good results in their performance.

C. C. Miller.

When it is remembered that the main requirement of bees to-day is that they shall gather much honey, rather than be noted principally for their beauty of color or purity of blood, we have no doubt those who get a Dr. Miller queen will be well satisfied. The only fear we have is that he may not be able to rear them fast enough to meet the demand.

The Doctor expected to have begun to mail the queens on advance orders before this number of the Bee Journal is sent out.

A Honey-Bee's Load.—A member of the American Bee Journal's family writes us as follows on this subject:

"That report of Prof. Lazenby, on page 336, is a valuable contribution to our bee-literature, and he is not justified in saying his observations are not important in themselves. He is perhaps the first who has said that bees do not collect both honey and pollen on the same trip, and it is to be hoped that others will confirm or refute his conclusions. Some of his conclusions confirm the saying: 'Bees never do anything invariably.' He says, 'Strawberries are infrequently visited by bees.' If he had been in this region at the time of strawberry-bloom he might have said: 'Bees work busily upon strawberries.' They were at work on strawberries and raspberries at the same time, altho they were more plentiful on the raspberries. There were perhaps twice as many bees on the raspberries as on the strawberries; certainly not eight times as many, as the Professor's table shows.

"In view of the fact that an item is at present going the rounds of the papers (not the bee-papers) to the effect that a bee carries a load three times as heavy as the weight of its own body, it is interesting to note that Prof. Lazenby makes it only one-twelfth as much, or one-fourth as much as its own weight. But I can not figure it out so large as that. Taking the Professor's figures, the average weight of an outgoing bee is .079 of a gram, and its weight is .094 as it returns with a load of honey. This, he says, leaves .022 as the average honey-load, or 27 percent of the average weight of the bee. I figure the difference to be .015 gram, or 19 percent of the weight of the bee, or less than one-fifth its own weight. Is there something wrong in my figuring, or is there something askew in the figures of our good friend in Ohio?"

There certainly seems to be discrepancy somewhere, and probably the best thing will be to ask Prof. Lazenby to kindly help us out of the tangle.

Hauling Extracting-Combs Home Instead of Honey.—R. C. Aikin is a revolutionist. No one has before hinted that he had any right to haul home combs full of honey from an out-apiary, said combs to be extracted and then returned. But that is exactly what he has been doing, as related in the Progressive Bee-Keeper. He objects to extracting at the out-apiary, because the extractor, etc., must be hauled out, the "etc." including all the vessels to hold the honey. It is troublesome to have a place to extract the honey without the chance of being greatly troubled by robber-bees some of the time. If unripe honey is thrown out, as will almost surely be the case, it is immediately canned or barreled to the detriment of the good name of the producer. So he does all his extracting at home, having arrangements looking toward securing the honey in the best and ripest form. His extracting-chambers hold 40 to 45 pounds when full. Of these he has 25 to 50 extra, with which he starts with one horse to the out-apiary, and he gives the particulars as follows:

"In the morning I drive to the apiary with 25 extras, take off an equal number of full ones, and put the empties in their place. If it is a time when robbing will not trouble, the full ones are just set about the yard wherever taken off, sometimes set singly and sometimes in piles of from two to four, but always as open and airy as possible. The combs are not shaken singly, but the bees are mostly smoked down and the chamber taken off without removing a comb from it. The first thing is to get these chambers all off so the bees will be leaving them for home, and while this is going on do such other work as I have to do in the yard.

"When about ready to start home I load the chambers, and if there are still bees in them the disturbance of loading, and when in the wagon the excitment and hum of the many disturbed and lost bees realizing they are away from home and queen, causes them rapidly to leave the combs.

"When all is loaded, I put a canvas over the horse, covering *head*, ears and all complete, hitch to the wagon and start off. As soon as out of the yard, if no fighting bees are about, the canvas is pulled off the horse and we move leisurely toward home, and as we go the remaining bees continue to leave the honey, and before out of range of the yard, very few bees are left in it. In this way I go out three miles, take off a load of honey and drive home and into the honey-house before dinner. My house is constructed with a driveway right into the building alongside of the honey-rooms, and the wagon can be driven in head first or backt in. The wagon stands in this driveway when not out on trips, and the honey can stay in the wagon as long as I please till I get ready to unload, and is free from robbers. Also I can load the chambers that have been extracted and are to go out again at any time, and the wagon is ready to hitch to when I am ready.

"I anticipate that many will say, 'Why do you haul those combs back and forth? Why not extract at the yard and save so much hauling?' I have been askt that many times. With just as much propriety might I ask, Where is your thinker and reasoner? If I do not haul out a set of combs empty and back a set full, I should have to haul out and back barrels, kegs or cans to put the honey into, and all the *extracting machinery besides.* Which will make the most hauling, the machinery and cans or the *super* and *combs?* The honey must be hauled whether in barrels or combs. At home the extractor is all *ready set*, the uncapping-box is there, the strainer, too—in fact, everything is in place and ready for business, and not a robber-bee nor flies."

The Premiums offered this week are well worth working for. Look at them.

FOR SALE!

50 Dovetailed bee-hives, 8-frame, 1½-story, of the G. B. Lewis make; 10 in flat, 5 in woven boxes that were never opened—just as they came from the factory; 10 set up and painted two coats of white, but not used; 30 set up and painted white and used one year only, and partly filled with comb; supers filled with sections and foundation starters. I will sell as many as any one wants, for 80 cents each, f.o.b. at Roseland, Nebr. For particulars write to

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GENERAL ITEMS

Bee-Industry Extensive There.

Bees in this vicinity wintered with but little loss, but are in light condition as to stores, and have been slow in breeding up. Those who have not fed enough to stimulate breeding still have light colonies, but they will build up very rapidly as alfalfa is now blossoming, and promises a good flow of honey. The bee-industry is quite extensive in this valley, and, as a rule, very profitable. F. E. BENEDICT.

Otero Co., Colo., June 4.

Honey Crop Almost a Failure.

I am in a mountainous section of country—one of the best locations in this part of the State.

We had a fine, open winter, and the hills were green all thru it. The early rains began in October, 1899, and lasted until May, 1900. As much as 22 inches of rain must have fallen, but the honey-crop will be almost a failure, as we have had very little honey so far, and there was a frost on May 25th. All of the flowers (principally sage) bloomed during the fine weather early in the season. We have ball sage and blue sage, but no white. There is some black sage about 8 or 9 miles from my apiary.

There is very little fruit around here—possibly about five acres—but my bees got honey from blossoms somewhere. They would have to go five or six miles to get it, proving that bees will go that far for honey. The honey is of a fine flavor, but is not clear.

We expected a good season, but it is a failure so far. We may get some honey later on, as bees work here off and on until October. I have been in the bee-business for 20 years, and never yet failed to get some honey.

T. KEATING.

Santa Clara Co., Calif., May 28.

A Happy Bee-Fever Patient.

If Blunk ever catches Dr. Miller and George York—well, they would better try to get that gun from Doolittle. Why? Well, it was those chaps who inoculated me with a terrible dose of bee-fever over two years ago, and when they had the patient where he could not rest easy for a moment, then along came Gleanings in Bee-Culture and also began to prescribe. Will the patient ever be cured? I think not, but he must take their remedies the rest of his days. One good thing for the patient is that he appears to relish their medicines.

The good book says, "Charity covereth a multitude of sins." It is my opinion that charity can be applied in various ways. Now, I won't say that those men are sinners, but *if they are*, I think their act in inoculating me with the fever has created a happiness within which I enjoy (a mild way of putting it), and their act was a charitable one, as I look at it.

In 1899 I increast from 5 colonies to 12, and got 500 pounds of comb honey. We had eaten it all by the holidays.

The Queen Grank
Is before the readers of this Journal with a petition for orders for as fine Queens as he has ever been able to rear. They are being, and have been for some weeks, reared in triple-decker 10-frame hives, from choice Golden and Three-Band Mothers, in a Golden yard. The Bee-Keepers' Review, of Flint, Mich., for May (which is a special queen-rearing number) tells how it is done. Ask for a copy. Tested, $1.00; untested, 75 cents. Money order office, Warrenton, N. C. W. H. PRIDGEN,
24Atf Creek, Warren Co., N.C.
Please mention Bee Journal when writing.

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We have finally succeeded in getting a SMALL quantity of the seed of the YELLOW variety of sweet clover. This kind blooms from two to four weeks earlier than the common or white variety of sweet clover. It also grows much shorter, only about two feet in hight. It is as much visited by the bees as the white, and usually comes into bloom ahead of white clover and basswood. We offer the seed as a premium
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So long as it lasts, we will mail a quarter pound of the seed to a regular paid-up subscriber who sends us ONE NEW subscriber for the American Bee Journal one year, with $1.00; or ¼ pound by mail for 30 cents.
We have been trying for years to secure this seed, and finally succeeded in getting it. It is new seed, gathered last season by an old personal friend of ours, so we know it is all right. But we have only a small supply. When nearly out we will mention it.
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Root's Column

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The Weed New-Process Foundation has been indorst by experiment stations and agricultural colleges as well as by private individuals. Wherever it has been placed in competition with ordinary Foundation it has been found that the bees will not only take to it more quickly, but will draw it out more fully. The result is that sections containing the Weed New-Process Foundation will be filled and capt over sooner than those containing the old process.

Our Foundation is put up in pasteboard boxes holding 1, 2, 3, and 5 pounds, respectively, also in neat wooden boxes of 5, 10, 15 and 25 pound sizes. Bee-keepers will find it a great convenience to get their Foundation in these regular packages, as it is sure to reach them in first-class order. Parties who buy in considerable quantities to supply their neighboring bee-keepers will find these small pasteboard boxes a great convenience, and to such we make a special rate which we will quote on application. Our prices are as follows:

Table of Prices of Root's Weed New Process Comb Foundation.

When you order, be sure to tell which grade you want, and give price.

Name of Grade.	Size and sheets per pound.		In lots of 1 lb	5	10	25
Medium brood	7¾x16⅞	7 to 8	48	46	44	43
Light brood...	7¾x16⅞	9 to 10	50	48	46	45
Thin super....	3⅞x15½	28	55	53	51	50
Extra thin	3⅞x15½	32	58	56	54	53

You are likely to find right in the midst of the honey harvest that you are short of Foundation. Do not lose dollars by neglect, but order a box of Root's Weed New-Process Comb Foundation at once.

You can get this Foundation promptly of any of the following dealers. Send to dealer nearest you and save heavy transportation charges.

J. M. Jenkins, Wetumpka, Elmore Co., Ala.
The L. A. Watkins Co., Denver, Colo.
George W. York & Co., 118 Mich. St., Chicago, Ill.
Vickery Bros., Evansville, Ind.
W. S. Pouder, 512 Mass. Ave., Indianapolis, Ind.
Jos. Nysewander, Des Moines, Iowa.
Carl F. Buck, Augusta, Butler Co., Kans.
Rawlings Implement Co., Baltimore, Md.
M. H. Hunt & Son, Bell Branch, Wayne Co., Mich.
Geo. E. Hilton, Fremont, Newaygo Co., Mich.
John Nebel & Son, High Hill, Mont'g Co. Mo.
C. H. W. Weber, 2146 Central Ave., Cincinnati, O.
A. F. McAdams, Columbus Grove, Putnam Co., O.
Buell Lamberson, 180 Front St., Portland, Oreg.
Prothero & Arnold, Du Bois, Clearfield Co., Pa.
Cleaver & Greene, Troy, Bradford Co., Pa.
J. H. Back & Son, 235 West 3rd North St., Salt Lake City, Utah.
The A. I. Root Co., 1024 Miss. St., St. Paul, Minn.
The A. I. Root Co., Mechanic Falls, Maine.
The A. I. Root Co., Syracuse, N.Y.
The A. I. Root Co., 10 Vine St., Philadelphia, Pa., and many other dealers.

THE A. I. ROOT CO.,
MEDINA, OHIO.

Before we sell any we must have more than we can consume on the farm, as I tell the good woman we are entitled to it as pay for all of those stings.

This spring we took from the cellar all the colonies that we put there in December. Our queens are all clipt and we expect no trouble in finding them during swarming-time. One could see a pin on the ground about the hives as there are no weeds or grass. Yellow willow afforded early feed. Swarming now begins, and of course the patient is happy.

If the Doctor and "George" would do penance just once, and go a-fishing with the patient, he would forgive them for what they did, and furthermore would furnish the bait.

"George," you go to your mailing-list, hunt up Blunk's name, and you will find a *c* just before the *k*. *Knock it out*, for it is silent, and no good. The old man Blunk brought that "c" over from Germany with him a long time ago, and he is a believer in short spelling, since "George" prescribes it.

I would say to "Afterthought," that my bees and strawberry bloom don't mix. I saw only one bee on the strawberry bloom, and I have kept close tab on both bees and berries.

J. P. Blunk.

Webster Co., Iowa, May 31.

[All right, Mr. B., we have knockt that "c" out of your name on our list, and now it looks ever so much better.

Dr. Miller and "ye Editor" never have time to go fishing, sorry to say. Many thanks for your kind invitation. —Editor.]

Much Rain—White Clover Scarce.

We are having a great deal of rain, and bees seem to be doing well. My bees never have built up so fast as they have this spring. The hives are "boiling over" with bees and they are bringing in the honey, but I don't know where they get it, for white clover is a very scarce article in this locality.

George Sage.

Greene Co., Ind., June 3.

Poor Prospect for White Clover.

This has been the driest spring I can remember. There are as yet no white clover heads to be seen. I called on Mr. Boardman, of Huron Co., Ohio, and he predicts no white clover this spring. Five days ago we had our first rain for this spring. I have just been out examining the roadsides and other places, and find clover coming up, but no signs of any heads as yet, however there may be some. Our bees are now working on mustard.

H. G. Quirin.

Erie Co., Ohio, June 1.

Cause of Loss in Wintering.

Mr. Geo. H. Adkins' loss in wintering (see page 347) is undoubtedly caused by the *Bacillus mitii* in a mild form. This will cause general uneasiness, and, assisted by a poor quality of honey, the result is general disaster.

In regard to handling the surplus combs, sort out all the objectionable ones part drone, and particularly those that are foul and contain the most pollen, and render into wax. There is no

Sharples Cream Separators: Profitable Dairying

California Queens.

OF PURE ITALIAN STOCK.
(THREE-BANDED.)

No other bees within a radius of TEN MILES. Eight years' experience in practical bee-keeping. Untested Queens, 90 cts. each; $9 per doz. Discounts after July 1. Write for price-list

18A13t **H. L. WEEMS, Hanford, Calif.**

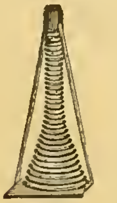
Please mention Bee Journal when writing.

POULTRY BOOK FREE, 64 pages, illustrated, with 3 mos. trial subscription to our paper, 10c. INLAND POULTRY JOURNAL, Indianapolis, Ind

EGGS From Barred **PLYMOUTH ROCKS** Thorobred, Fine Plumaged Fowls. Farm Raised—75c per dozen.

MRS. L. C. AXTELL, Roseville, Ill.

15Atf Please mention the Bee Journal.



Queen-Clipping Device Free....

The Monette Queen-Clipping Device is a fine thing for use in catching and clipping Queens wings. We mail it for 25 cents; or will send it FREE as a premium for sending us ONE NEW subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,

GEORGE W. YORK & COMPANY,
118 Michigan St., Chicago, Ill.

FREE FOR A MONTH....

If you are interested in Sheep in any way you cannot afford to be without the best Sheep Paper publisht in the United States.

Wool Markets and Sheep has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.

WOOL MARKETS AND SHEEP, CHICAGO, ILL.

QUEENS!

One Untested Queen.....$ .80
One Tested Queen 1.00
One Select Tested Queen 1.25
One Breeder.............. 2.00
One-Comb Nucleus....... 1.00

All Queens ready to mai on receipt of the order.

Breeders are from last season's rearing.

Send for price-list of Queens by the dozen.

J. L. STRONG,
14Atf CLARINDA, Page Co., IOWA.

Please mention Bee Journal when writing.

PAGE DAIRY FENCE, 9-50,

has nine horizontal wires and is 50 inches high.

PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.

Please mention Bee Journal when writing.

Rocky Mountain Bee-Plant Seed!

(*Cleome integrifolia*)

...FREE AS A PREMIUM...

The A B C of Bee-Culture says of it: "This is a beautiful plant for the flower-garden, to say nothing of the honey it produces. It grows from two to three feet in hight, and bears large clusters of bright pink flowers. It grows naturally on the Rocky Mountains, and in Colorado, where it is said to furnish large quantities of honey."

We have a few pounds of this Cleome seed, and offer to mail a ¼-pound package as a premium for sending us ONE NEW subscriber to the American Bee Journal, with $1.00; or ¼ pound by mail for 40 cents.

GEORGE W. YORK & CO.
118 Michigan St., CHICAGO, ILL.

The Bee-Keeper's Guide

Or, Manual of the Apiary,

—BY—

PROF. A. J. COOK.

460 Pages—16th (1899) Edition—18th Thousand—$1.25 postpaid.

A description of the book here is quite unnecessary—it is simply the most complete scientific and practical bee-book publisht to-day. Fully illustrated, and all written in the most fascinating style. The author is also too well-known to the whole bee-world to require any introduction. No bee-keeper is fully equipt, or his library complete, without THE BEE-KEEPERS' GUIDE.

This 16th and latest edition of Prof. Cook's magnificent book of 460 pages, in neat and substantial cloth binding, we propose to GIVE AWAY to our present subscribers, for the work of getting NEW subscribers for the American Bee Journal.

Given for TWO New Subscribers.

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Send us TWO NEW SUBSCRIBERS to the Bee Journal (with $2.00), and we will mail you a copy of Prof. Cook's book FREE as a premium. Prof. Cook's book alone sent for $1.25, or we club it with the Bee Journal for a year—both for only $1.75. But surely anybody can get only TWO NEW SUBSCRIBERS to the Bee Journal for a year, and thus get the book as a premium. Let every body try for it. Will YOU have one?

GEORGE W. YORK & CO.,
118 Michigan Street, - CHICAGO, ILL.

BY RETURN MAIL.

Golden Beauty Italian Queens,
Reared from imported mothers.

Untested, 50 cts.; 12 Untested, $5.50; Tested, $1.
J. S. TERRAL & CO., Lampasas, Texas.
18Atf Please mention the Bee Journal.

use in trying to save more than the bees you have can use this season, as there is and will be danger in using them.

Should you not be able to extract the honey, owing to its granulating, cut it out by itself, and when rendering your wax run it by itself, running it into a tall receptable like our sap buckets, when, if you are careful about not running the water from the spout into the receptable, the wax and honey will be separated when cool. The honey can be used to stimulate brood-rearing, and is a clear gain.

Reduce all combs now in hives, that is, do not ask the bees to clean up badly smeared combs for brood-rearing, but select all those that are free from old pollen and desirable ; procure a sprinkler, and purchase either gasoline or naphtha, and sprinkle thoroly. One gallon will do for 100 combs, and this instantly destroys all traces of mold, making the combs fresher, and owing to its rapid evaporation leaving no trace of the objectionable odor of petroleum products.

My fear was that the bees would object to the combs so treated. Late experiments prove quite the reverse ; the queen lays freely, and as I have now the eggs hatcht into the larval stage, I hope for good, even combs of brood, which I have failed to see for some time.

While perhaps I will not be able to cure a diseased apiary by this method, surely by giving them good, clean combs that will produce a good, full frame of brood each, will go a long way towards the desired end.

A few of my neighbors have lost heavily. One box-hive bee-keeper put in 250 colonies, and now has 30 hives with bees in. Another modern apiarist put in 175, and now has 25 left. His showed the same trouble as they all do. The vegetable germ in the

$5.00 per month will pay for medical treatment for any reader of the American Bee Journal. This offer is good for 3 months ONLY—from May 1 to Aug. 1. Dr. Peiro makes this special offer to test the virtue of small price for best medical services. Reply AT ONCE.

DR. PEIRO,
34 Central Music Hall, CHICAGO.

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We are distributors for ROOT'S GOODS AT THEIR PRICES for southern Ohio, Indiana, Illinois, West Virginia, Kentucky, and the South.

MUTH'S SQUARE GLASS HONEY-JARS
LANGSTROTH BEE-HIVES, ETC.

Lowest Freight Rates in the country.
Send for Catalog.

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2146-48 Central Ave., CINCINNATI, O.

Italian Queens $1.00 during May and June. Nothing sent out but beautiful Queens, from our best workers. Safe arrival guaranteed. **D. J. BLOCHER,**
22A4t **Pearl City, Ill.**

The Mississippi Valley Democrat

—AND—

Journal of Agriculture,

ST. LOUIS MO.

A wide-awake, practical Western paper for wide-awake, practical Western farmers, stock-raisers, poultry people and fruit-growers, to learn the science of breeding, feeding and management. Special departments for horses, cattle, hogs, sheep, poultry and dairy. No farmer can afford to do without it.

It stands for American farmers and producers. It is the leading exponent of agriculture as a business, and at the same time the champion of the Agricultural States and the producer in politics. **Subscription, One Dollar a Year.**

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ARE YOU FULL OF GINGER? If you want health and vigor, good appetite and sound sleep, take **LAXATIVE NERVO-VITAL TABLETS,** the quick and safe cure for Constipation, Nervous Dyspepsia, Insomnia, Nervous Affections, the "Blues" and all attendant evils. It aids digestion, purifies the blood, strengthens the nerves, improves the appetite, induces sweet sleep, tones up the whole system and makes you a new creature. It not only makes you *feel* well, it makes you *really* well. It gives you that vim and vigor which makes life worth living.

LAXATIVE NERVO-VITAL TABLETS

It contains no narcotics nor bromides nor other injurious drugs. We give the formula with every box. You know exactly what you are taking. Originally put up for physicians' use. Ask your druggist for a **FREE SAMPLE.** If he hasn't it, don't take a substitute, but send us a stamp for our book on "Health" and we will send you a free sample, sufficient for you to try it and test its merits to your own satisfaction. *Isn't it worth trying free?* It positively cures. Price 10c and 25c per box. Don't delay sending.

The Modern Remedy Co., Kewanee, Ill.

BEE-KEEPERS: If you want your supplies to arrive at your railroad station in neat and perfect condition, free from dirt and damage ordinarily resulting from railroad handling; and if you want your orders filled promptly with the very finest goods in the market, send to

G. B. Lewis Co., Watertown, Wis.
—U. S. A.—

THOUSANDS OF BEE-HIVES, MILLIONS OF SECTIONS READY FOR PROMPT SHIPMENT.

Lewis Foundation Fasteners are selling like hot-cakes. Customers who have received one of these new machines pronounce it the finest, and write us that it is worth more than our price, which is only ONE DOLLAR, without lamp.

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FREE OX-BLOOD TABLETS FOR THIN PEOPLE. Nervousness, Rheumatism, Female Disease. 3 weeks' treatment free for 10 cents postage. Look for our ad on this page next week.
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Marshfield Manufacturing Company.

Our specialty is making SECTIONS and they are the best in the market. Wisconsin BASSWOOD is the right kind for them. We have a full line of BEE-SUPPLIES. Write for free illustrated catalog and price-list.

MARSHFIELD MANUFACTURING CO., Marshfield, Wis.

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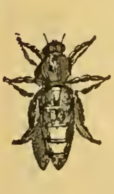
ALBINO QUEENS If you want the most prolific Queens—If you want the gentlest Bees—If you want the best honey-gatherers you ever saw—try my Albinos. Untested Queens in April, $1.00; Tested, $1.50.
12A26t J. D. GIVENS, LISBON, TEX.

Queens UNTESTED ITALIAN, 70 cents each; tested, $1 each. Queens large, yellow and prolific. Circular free.
21Atf Address, E. W. HAAG, Canton, Ohio.

The Novelty Pocket-Knife.

Your Name and Address on one side—Three Bees on the other side.

HOWARD M. MELBEE,
HONEYVILLE, O.



[THIS CUT IS THE FULL SIZE OF THE KNIFE.]

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The holsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and in case of death, your relatives will at once be notified of the accident.

How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

How to Get this Valuable Knife.—We send it postpaid for $1.10, or give it as a Premium to the one sending us THREE NEW SUBSCRIBERS to the Bee Journal (with $3.00.) We will club the Novelty Knife and the Bee Journal for one year, both for $1.90.

GEORGE W. YORK & CO., 118 Mich. St., Chicago, Ill.

☞ Please allow about two weeks for your knife order to be filled.

Please Mention the Bee Journal when writing Advertisers.

pollen entering the very structure of the bee, as well as sapping the vitality of the larva, is giving us a bee that can not stand protracted cold weather. I put in 120 colonies, and have lost and doubled up until now I have 70 left. These will be built up by giving cleansed combs as fast as needed.

C. G. FERRIS.

Herkimer Co., N. Y., June 1.

BEEDOM BOILED DOWN

Producing Honey Without Any Swarming.—Mr. B. F. Blakely, Jr., of Kansas, writes how he manages in producing both comb and extracted honey, and at the same time avoids swarming. When the hive is full of bees, honey and brood, and the honey-flow begins, he removes all of the brood-combs except about four that contain the greatest amount of brood. These are alternated with frames containing strips of foundation for starters, and the super put on the hive. No bees are taken from the hive, they being shaken off the combs that are removed. A colony treated in this way works and acts very much like a swarm. The removed combs are given to the colonies that are workt for extracted honey, these colonies sometimes being piled up four stories high. In short, this is a peculiar system of division, if such it may be called, in which the comb-honey colonies are robbed of so much of their brood, at exactly the right time, that swarming is prevented; while the brood is placed in colonies so workt for extracted honey that they do not swarm. It is a peculiar system, and one that requires the production of both comb and extracted honey.—Bee-Keepers' Review.

Rendering Beeswax by Steam.—The process is thus given in detail by the editor of Gleanings in Bee-Culture:

About rendering by steam, we find no trouble along that line. We run a jet down into our tank, and let it snap for half an hour. But there is perhaps one thing that we do that Mr. H. does not, and therein lies the trouble. I would advise him to place about two pailfuls of water into a barrel holding about 31 gallons. If it is of the 50-gallon size, then use three pailfuls. Into the water pour from one-half to one pound of commercial sulphuric acid, such as can be bought at any drug-store—that is, providing the wax is very dark. If the wax is of a leather color, and it is desired to bring it to a lemon color, put in only about 4 ounces of the acid. Turn a jet of steam down into the water, using a common half-inch steam-pipe. Let it snap until the water is hot, and then add the chunks of wax gradually until the barrel is nearly full of melted wax and water. Allow it to snap for a few minutes, seeing that the water, acid and wax are thoroly mixt. Remove the steam-pipe, put the lid on the barrel, and cover the whole with old blankets, old carpets, or any old thing that will help to confine the heat in the barrel, keeping the wax in a liquid condition as long as possible. At the end of three

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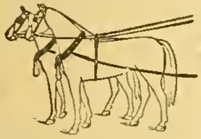
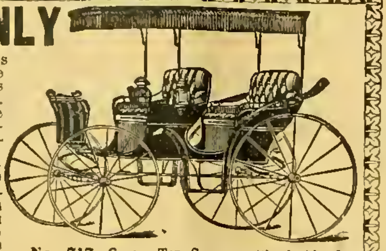
We manufacture 178 styles of vehicles and 65 styles of harness and sell them to you direct from our factory at wholesale prices. In fact, we are the largest manufacturers of vehicles and harness in the world selling to the consumer exclusively. When you buy on this plan you pay **only the profit of the manufacturer.** No traveling expenses, no losses, no agent's commission and no dealer's profits

WE HAVE NO AGENTS

preferring to deal with you direct. We have followed this plan for 27 years. No matter where you live, we can reach you and save you money. We ship our vehicles and harness anywhere for examination and guarantee safe arrival. **We manufacture everything we sell,** and we can assure you of good quality from beginning to end; good wood work, good iron and steel, good paint and varnish, good finish, good trimmings, fine style and the largest selection in the land. **Large illustrated catalogue FREE.** ELKHART CARRIAGE & HARNESS MANUFACTURING CO., Elkhart, Ind.



No. 130—Double Buggy harness, with nickel trimmings. Complete with collars and hitch straps, $22. Good as sells for $30.



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I. J. Stringham, 105 Park Place, New York City,

Keeps in stock a full line of POPULAR BEE-KEEPERS' SUPPLIES.
Silk-faced Veils, 35 cents, postpaid.
Tested Italian Queens, $1.00; Untested Queens, 60 cents. From honey-gathering stock.
We keep in stock a full line of **Popular Apiarian Supplies.**
Catalog FREE.
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H. G. Quirin, the QUEEN=BREEDER, is as usual again on hand with his improved strain of

Golden Italian Queens

Our largest orders come from old customers, which proves that our stock gives satisfaction. There is no bee-disease in our locality. We have 12 years' experience in rearing queens, and if there is any one thing we pride ourselves in, it is in sending all queens promptly **BY RETURN MAIL.** We guarantee safe delivery.

Price of queens before July 1st:

	1	6	12
Warranted as queens average	$ .75	$ 4.25	$ 8.00
Selected, warranted	1.00	5.00	9.50
Tested	1.50	8.00	15.00
Selected tested	2.00	10.50	
Extra selected tested, the best that money can buy	4.00		

Address all orders to
H. G. QUIRIN, Parkertown, Erie Co., Ohio.
Money Order Office, Bellevue, O.)
23A16t Please mention the Bee Journal.

MARQUETTE, ON LAKE SUPERIOR,

is one of the most charming summer resorts reacht via the Chicago, Milwaukee & St. Paul Railway.

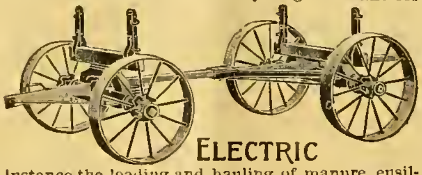
Its healthful location, beautiful scenery, good hotels and complete immunity from hay fever, make a summer outing at Marquette, Mich., very attractive from the standpoint of health, rest and comfort.

For a copy of "The Lake Superior Country," containing a description of Marquette and the copper country, address, with four (4) cents in stamps to pay postage, Geo. H. Heafford, General Passenger Agent, Chicago, Ill.

Italian Queens Finely markt—from freshly imported NEW stock. By mail, price, $1. Address all orders to
WILLIAM DELINE,
23A4t WYMORE, NEBRASKA.

Labor Saving Conveniences.

Success on the farm today is largely proportioned to the saving of time and labor—which means economy of production—and not higher prices for farm products. Probably no single machine or appliance saves in the aggregate so much time and hard labor as the modern low down handy wagon. Take for



instance the loading and hauling of manure, ensilage corn, grain in the straw, corn fodder, hay, &c., all hard to load, the use and advantages of a low down wagon are almost inestimable. The Electric Low Down Handy Wagon excels for these purposes. Has the famous Electric steel wheels, is light, strong and durable. Write Electric Wheel Co., Box 16 Quincy, Ill., for catalog.
Please mention Bee Journal when writing.

M. H. HUNT & SON,
SELL ROOT'S GOODS AT ROOT'S PRICES.
Our inducements are first-class goods, cheap freight rates, and prompt shipments. Send for catalog. BELL BRANCH, MICH.
Please mention Bee Journal when writing.

Adel Queens, $1 Each.
Send postal for dozen rates and description of bees. HENRY ALLEY, Wenham, Mass.
23A1f Mention the American Bee Journal.

Four Celluloid Queen=Buttons Free
AS A PREMIUM.

OUR TOIL DOTH SWEETEN OTHERS

OUR TOIL DOTH SWEETEN OTHERS

For sending us **ONE NEW SUBSCRIBER** to the Bee Journal for the balance of this year, with **50 cents,** we will mail you **FOUR** of these pretty buttons for wearing on the coat-lapel. (You can wear one and give the others to the children.) The queen has a golden tinge. This offer is made only to our present regular subscribers.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate, it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

Prices of Buttons alone, postpaid: One button, 8 cts.; 2 buttons, 6 cts. each; 5 or more, 5 cts. each. (Stamps taken.) Address,

GEORGE W. YORK & CO., 118 Michigan St., CHICAGO.

or four hours, or longer if possible, dip off the wax from the top, a dipperful at a time.

I omitted to state that the wax, as fast as dipt off, should be placed in tin pans or pails that have been greast. After the wax cools, turn the pails bottom up, and, presto! you will find nice yellow cakes of wax. If, perchance, they are too leather-colored yet, next time use a little more acid; but do not use more than is necessary.

In cleaning tin utensils, never scrape, for that will remove the tin, and the iron, or steel, rather, will rust. To get the wax off, turn a jet of hot steam right against the inside of the pails or pans used. This will disengage every particle of wax used.

If one does not have steam he can use an ordinary iron kettle, being careful to observe about the quantity of acid and water. The vinegar, for such it really is, will be so weak that it will not attack the iron enough to cause any serious trouble.

Discoloring of Comb=Cappings.—I have always understood the appearance of comb honey is the production of certain strains of bees—the Asiatic varieties tending very much that way. In the same apiaries some colonies produce more or less greasy-looking capping to their comb. The dark races of bees cap their honey with white caps. The goldens do not produce so white a capping as the black bee. The Ligurian produces honey more greasy in appearance, and the Holy Land bees very greasy. Such has been my experience, but in all apiaries of colored bees the capping varies. Is that caused by weather or the strain of bees? Have you ever noticed that sections over the center of the brood have a more greasy appearance than those to one side? What is the cause?—Australasian Bee-Keeper.

A Bunch of Stray Straws, by Dr. Miller, in Gleanings in Bee-Culture:

George G. Scott takes up half a column of the American Bee Journal in saying that hive-tools and other things likely to be lost should be painted a brilliant red. The advice is worth all the room he has taken.

The membership of the National Bee-Keepers' Association is a little more than 500. It's sad that it's so small; but there's encouragement in the thought that never before were so many bee-keepers banded together in one body in this country. And the number is all the time growing.

Two mysteries in connection with finding queens. You look very, very carefully all over a comb, and the queen is not to be seen; but suddenly she appears, calmly walking right before your eyes. Where or how she was hidden is the mystery. Another mystery is that often a queen is harder to find in a mere handful of bees than in a strong colony.

The age at mating of 30 queens is given in Bienen-Vater. It varied from 4 to 9 days, the largest number being at 6 days, and the average of all being 6⅓ days. [I once conducted a series of experiments, and, if I remember correctly, the average date seemed to be 7 days, and the earliest 3 days; but in this case I had reason to suspect the queen had been confined in the cell by the bees after the regular day for hatching.—Ed.]

John R. Millard gets some sound instruction on page 352. The problem being to get a stock of drones from a choice young queen, this might be worth trying: Add brood from other colonies so as to get the young queen's colony very strong. Then have plenty of drone-comb in one or two of the central combs. As soon as the queen fills these drone-cells, take the comb and give to another colony, and replace with fresh drone-comb as fast as taken away.

In working bees from other frames to dovetail frames, one way is to put the hive with brood over the dovetail hive, an excluder between, the queen below. But the queen is very slow about laying, apparently thinking she ought to get above to lay. A better way is to brush all bees from the old comb into the new hive, and put the beeless brood over another strong colony with excluder. If desired, this brood may be put back over its original queen 10 days later.

Equalizing colonies is all wrong. And it's all right. Depends. In the spring, take two colonies, one with three frames filled with brood, the other with enough brood in three frames to make one full frame. Take a frame full of brood from the strong and give to the weak, and you have equalized the brood. Three weeks later there will not be as much brood in the two hives as if you had let them alone. But let them alone till the stronger has 6 or 8 frames of brood, and then you will gain by equalizing. The secret of it is that a colony with brood enough to fill only one frame full stands nearly still, while one with 3 or 4 frames booms right along.

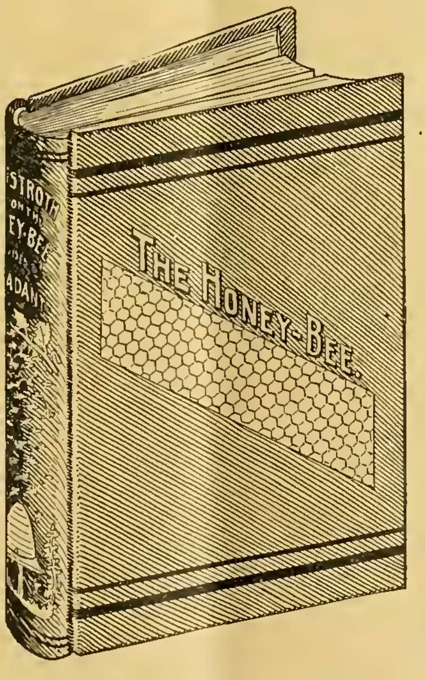
Doolittle talks sense when he favors leaving queen-cells and young queens with the bees from start to finish. And he will probably agree that for the best results it is desirable that the cells be in a strong colony at least till they are sealed, and that it is at least a little better that the young queen be in a strong nucleus till she lays. We are not likely to reach the time when good queens can be reared for nothing.—[I have said a good deal in favor of bees for business, and have rather decried the evident rage for color, which rage now seems to have all but died out. Would it not be well to talk about high-priced queens? One reared by the most approved plans in a strong colony, under the swarming-impulse, or same impulse brought on artificially by feeding, ought to be worth twice as much as one reared in the old-fashioned method in a queenless colony without feeding—a method that is apt to result in small, inferior queens. —Ed.]

Have you tried the French way of using the Porter escape? Instead of having the escape open into the hive below, have it open *outside*, in front, above the hive. One advantage claimed is that you can see if the springs of the escape do not work exactly right. [This method is all right under some conditions. H. R. Boardman has practiced it for years, and I do not know but he is using it now. It has the advantage, according to Mr. Boardman, of getting the bees out of the supers a little quicker, because the bees work toward bright daylight. The young bees that happen to be in the supers come out in front of the hive, and naturally find the entrance, so none are lost; but as a general rule Porter escapes are put on at night between brood-nest and sections, and the next morning the supers are *supposed* to be free of bees; but according to my experience they are not *always* thus freed, for I have found anywhere from 30 to 40 bees in the super next morning. I suppose H. R. Boardman, by his plan, induces the bees to leave earlier, with the result that the work is accomplisht in less time, and more thoroly. It might be well to try this matter this coming season.—Ed.]

Langstroth on... The Honey-Bee

Revised by Dadant—1899 Edition.

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains over 500 pages, being revised by those large, practical bee-keepers, so well-known to all the readers of the American Bee Journal—Chas. Dadant & Son. Each subject is clearly and thoroly explained, so that by following the instructions of this book one cannot fail to be wonderfully helpt on the way to success with bees.



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HONEY AND BEESWAX

MARKET QUOTATIONS.

Chicago, June 8.—Not any new comb honey has appeared on the market, but it would sell at 15 cents, as there is a demand for it that can't be supplied for some time hence.

Extracted from the Southern States is coming forward quite freely, but is not active and prices are lower. White sells at 6½@7c: amber, 6@6½; dark grades, 5@5½. Beeswax, 27c for prime.
R. A. Burnett & Co.

Kansas City, May 9.—We quote: No. 1 white comb, 14@15c; No. 1 amber, 13@14c; No. 2 white and amber, 13@13½c. Extracted, white, 7½@8c; amber, 7c. Beeswax, 22@25c

The receipts and stock of honey on hand are light; demand fair. C. C. Clemons & Co.

Detroit, May 24.—Fancy white comb, 15@16c; No 1, white, 14@15c; amber and dark, 10@12c. Extracted, white, 7c; amber and dark, 5@6c. Beeswax, 25@26c.

Supply and demand for honey both limited.
M. H. Hunt & Son.

New York, May 21.—Our market is practically bare of comb honey, and there is a good demand for white at from 13@15c per pound, according to quality and style of package. The market on extracted is rather quiet, and inactive. New crop is slow in coming in, and prices have not yet been establisht. Beeswax holds firm at 27@28c. Hildreth & Segelken.

San Francisco, May 29.—White comb, 11½@12½c; amber, 8@10c. Extracted, white, 7@7½c. light amber, 6½@7c; amber, 5@5½c; Beeswax, 26@27c.

Moderate quantities of new crop are coming forward, mostly amber extracted from the San Joaquin. Altho supplies of old honey are about exhausted, demand for new does not appear to be very active or urgent. Sales of new amber extracted have been mainly within range of 6½@7c., little commanding over 6½c in anything like a wholesale way.

Texas.—The Central Texas Bee-Keepers' Association convenes in seventh annual convention, at Hutto, Tex., July 12 and 13, 1900. All are cordially invited to attend. Excursion rates, and no hotel bills to pay.
Hunter, Tex. Louis Scholl, Sec.

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This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

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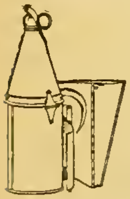

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The Queens Dr. Miller will send out on our orders will be precisely the same as those he rears for his own use, so of course they will be from his best stock. His best colony in 1899 had a queen reared in 1898; May 5, 1899, it had brood in 4 frames, and he gave it at that time a frame of brood without bees. It had no other help, but May 25 a frame of brood with adhering bees was taken from it, and the same thing was repeated June 3, leaving it at that time 5 frames of brood. It stored 178 sections of honey, weighing 159 pounds (and that after July 20, in a poor season), being 2⅔ times the average yield of all his colonies. A point of importance is the fact this colony did not swarm, and an inspection every week or 10 days showed that at no time during the entire season was there even so much as an egg in a queen-cell. Dr. Miller expects to rear queens from this one during the coming summer.

The demand nowadays is for BEES THAT GET THE HONEY when there is any to get, and Dr. Miller has such bees. You will want to have a queen from his best, we are sure, even if she is not pure Italian.

Do not send any orders to Dr. Miller, as all orders MUST come thru us, according to our agreement.

Remember, send us $1.00 for ONE NEW SUBSCRIBER to the American Bee Journal for one year, and YOU will get ONE OF DR. MILLER'S UNTESTED HONEY-QUEENS FREE AS A PREMIUM. This offer is made *only* to our present regular subscribers. Orders for queens to be filled in rotation, beginning about June 10.

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AMERICAN BEE JOURNAL.

ESTABLISHT IN 1861 — OLDEST BEE-PAPER IN AMERICA

DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS.

40th YEAR. CHICAGO, ILL., JUNE 21, 1900. No. 25.

CONTRIBUTED ARTICLES

Bee-Keeping for Women.

Written for the Wisconsin Convention, held at Madison, Feb. 7 and 8, 1900.

BY MRS. JENNIE TOWLE.

TO make a successful bee-keeper, in my opinion, requires several traits of character which are indispensable. One must be patient, persevering, ingenious, industrious, and, last but not least, *thoro*. That last word *thoro* needs to be emphasized. Bee-keeping is a work that cannot be slighted, nor neglected and allowed to run itself.

If a lady wishes to engage in bee-keeping, either as a pastime or to earn a living, she ought not to attempt too much at the beginning, as it requires labor and lots of nerve to endure the stings and hardships belonging to the work. She should commence on a small scale, and increase her colonies only with her increase of practical knowledge of bee-keeping, and means and facilities for caring for them. She can obtain a practical knowledge of the art of handling bees by studying standard books on bee-culture, taking and reading bee-papers; but, best of all, by actually acquainting herself with her own work, and fearlessly doing whatever she finds necessary to do, and, at the right time, observing well the old maxim, "Never put off till tomorrow what should be done today."

Bees increase very rapidly, and each new colony means an additional expense as well as work, so unless one has an abundance of means and plenty of help, it is better to use a little caution at first, or soon she will find an "elephant on her hands," which she will be at a loss to know how to dispose of. Besides, experience teaches us that a small farm well cultivated is much less expense and work than a large farm slighted, which also holds good in bee-keeping.

Bee-keeping is a pleasant and fascinating work, when it can be done without overwork and worry. But it is impossible to make a success of bee-keeping and attend to all the requirements of society and fashion. One cannot attend all the picnics, celebrations, circuses, tea-parties and sociables going on in the neighborhood, for bees require care. and, if not cared for at the right time, will take care of themselves in their own time and way, without regard to the pecuniary interests of their owner.

But circumstances alter cases, and a little practical experience combined with a little native "gumption" will do more for a novice than pages of other people's opinions.

Many a lone woman who is toiling over her needle or washboard to earn a scanty living for herself and children, could find in bee-keeping a far more congenial and lucrative occupation if her location were only suitable. Still, there are some risks to run, and it requires a little means to start, and live until some returns are received. Yet it requires but little more capital, and not one-half the vexation and annoyance, to successfully keep bees, than it does to raise poultry, and the receipts are far more satisfactory. Clark Co., Wis.

Mrs. West and Daughter, of Rock Co., Wis., in the Apiary.

(Mrs. W. does all the work with her bees.)

⁂

Enameled Cloth for Covering Bees, Etc.

BY G. M. DOOLITTLE.

FOUR questions come from one person to be answered thru the American Bee Journal, and I think they will not make too long an article if I answer them all in one number.

QUESTION.—If bees need water in summer why do they not need it in winter also? If so, why would it not be a good plan to use an enameled cloth covering over the brood-frames in the winter? With such a covering over the frames, the condensation of moisture on it would give them water in winter as well as in summer.

Answer.—The above is quite ingenious, to say the least; and if I really believed that bees needed water while in winter quarters, I might be persuaded to try enameled cloth for that purpose, as it would be much easier supplying water in that way, than by giving it to them in a sponge at the entrance, as has been recommended many times during the past, where bees were being wintered in the cellar. But bees use water of any account only when breeding rapidly, and as winter breeding is poor economy in this latitude, and something I do not wish to encourage, I do not care to supply that which brings on what is a damage to me; for I believe winter breeding to be only a damage to any bee-keeper residing at the North.

I have tried enameled cloth several times over the cluster of bees during winter, and, in every case where tried, those colonies did not come out nearly as strong as did those with absorbents over them, while many colonies, in proportion to those so tried, died, or were so weak as to be nearly worthless. A few have recommended enameled cloth over the bees during winter, but with me the moisture arising from the bees condenses in drops on the cloth, until they become so large that they fail to hold to the cloth, when they drop down on the bees, thus keeping the bees from damp to wet, and in a condition not suitable to their wintering in the most perfect order.

I doubt whether enameled cloth for bee-quilts would ever have been thought of had it not been for its non-sticking character. What I mean by this is, a sheet of enameled cloth will not be glued down by the bees so but what it will readily cleave from the top of the frames and hive with a little lifting by one corner. This makes it desirable during summer where a hive is to be opened often, as in the case of queen-rearing, or an experimental hive. Aside from this I think enameled cloth of no advantage, but rather a detriment.

REARING QUEENS BEFORE SWARMING.

Question.—I wish to rear some queens before the swarming season of bees arrives. How can I secure royal jelly for the purpose of putting in the cell-cups, aside from queen-cells built in natural swarming?

Answer.—I have never found any trouble in securing royal jelly at any time when there is young brood or bees in the larval form in the combs in any hive. All there is to be done is to make a colony queenless which has such larval bees, and in from three to five days, after taking away the queen, you will find cells enlarged and the occupants swimming in royal jelly; or at least to a sufficient extent so that enough can be obtained to start from 15 to 30 cups, for rearing that many queens. Take the larva out, then with a little stick stir and mix the jelly all up, being careful not to break thru the sides of the cell, when you will have the whole of an even consistency, as that next to the larva is quite thin, while that next to the bottom of the cell is quite thick.

Now put a quantity in each cell-cup of the amount of a single "B" shot, or about what would amount to three or four turnip or cabbage seeds as to quantity. After once getting started, you will remember to take off one or two of the cell-cups a half day before the bees would seal up the larvæ in them, and if you should not wish to use the royal jelly they contain within a few days to two weeks, take out the larva, stir the jelly up as you did the first, when you will hold the mouth of the cell near a stove or lamp till the wax at the end becomes soft, when you will wet the thumb and forefinger and press the end down tight, thus sealing it up as tight as if in a glass can. In this way the jelly can be preserved for some little time, but after two or three weeks it will begin to dry down and change so that it is not acceptable to the bees.

IS AN EARLY POLLEN SUBSTITUTE NECESSARY?

Question.—Is it necessary for bees to have pollen in the hive in early spring, before they can secure it from the fields, for them to rear brood?

Answer.—It is my opinion that if such a condition were possible as not to have a single particle of pollen in any of the combs in the hive, and where nothing of the kind could be obtained by the bees from any source, no brood could be reared and brought to perfection, but I doubt the possibility of there being such a condition as absolutely *no* pollen in any hive having honey enough in it in the fall to carry it over till the pollen-producing flowers open in early spring. All honey contains more or less floating pollen; combs in which pollen has been stored previously contain many particles of the same, according to some of our most scientific bee-keepers; and where nothing else is available, bees will collect fine particles of wood and use in place of farina from flowers, as I have frequently seen them doing from a pile of fine sawdust which is taken from the shop and thrown out nearly every spring.

Elisha Gallup told us in the columns of the American Bee Journal, years ago, how he hived a swarm of bees so late one year that they built only three pieces of comb a little larger than the hand, and, as an experiment, he fed them honey all winter, and in early spring they commenced brood-rearing before being taken from the cellar, finally building up to a fine colony and storing considerable surplus honey that season. I have had similar experiences, but find that the less pollen there is in the hive the less brood there will be reared, and where there is scarcely any pollen, or what most folks would call none at all, there would be but few cells of brood reared, and this brood be scrimpt in food, and appear weak and sickly.

Nothing incites brood-rearing like plenty of pollen in the hive, with the necessary honey; and with the advent of new pollen, brood-rearing commences in earnest. I have fed the bees meal and flour many times, thinking that it would take the place of pollen from the flowers, but after a careful watching I am satisfied that such is not the case, with me.

AMOUNT OF SMOKE TO USE IN HANDLING BEES.

Question.—How much smoke should be used in opening hives?

Answer.—Well, for a brief answer I would say, the less the better. But that would not fully answer, so I will say, from none up to enough to thoroly subdue the bees, just in accord with the amount necessary for ordinary handling, which means *careful* handling of the combs and hives—not rushing at and thru them, as a baggage-smasher handles trunks; the latter being the way some people manipulate bees.

With the ordinary Italians most colonies can be opened during the spring months without any smoke, but it is always best to have smoke on hand so it can be used in case of an accident with the most peaceable bees. Later on in the season, except with the vicious colonies, two or three puffs of smoke are sufficient to blow over the frames when the hive is first opened. With very vicious colonies, blow 8 or 10 puffs in at the entrance, jarring the hive at the same time by pounding on it with the fist, then wait three or four minutes, and on opening it blow four or five puffs over the frames, and you are master of the situation.

Borodino Co., N. Y.

The Bee as a Pollenizer of the Blossoms.

Read at the Northeastern Ohio and Western Pennsylvania Convention,

BY ED JOLLEY.

THE bee as a pollenizer of the blossoms is one of the greatest of our natural benefactors. The nectar hidden in the well of the flower is but the bait that lures the bee unwittingly to perform a vastly more important function than gathering and storing honey for either itself or man.

As we look at the high state of perfection of our apple, peach and pear, our berries and small fruits, our melons and squashes, we are apt to regard them as fixtures, as having always existed as they now exist, while, in fact, nothing could be further from the truth. The present high standard of our fruits represents the labor of the bee for ages.

No where is the natural law of evolving from a lower to a higher degree of perfection more clearly demonstrated than in the vegetable kingdom. Nearly all of our fruit-bearing trees are double-sext (hermaphrodite), and are capable of being fertilized from their own bloom. But the effect of close in-and-in breeding is just as markt, and just as detrimental in the vegetable kingdom as in the animal; and to guard against this nature has placed a tiny drop of nectar in each blossom to entice the bee to the blossom. The amount of nectar in each blossom is so small that the bee is obliged to visit blossom after blossom in order to secure its load. In this way the pollen is carried from blossom to blossom, from tree to tree, and from one variety to another.

By way of illustration, if you have an orchard of a single variety—Baldwin apples for instance—and the orchard is so far from any other variety that the bees can not carry pollen to the orchard from any variety, the seed from the fruit of this orchard will bring forth nothing but Baldwins. If your orchard contains a number of different kinds of apples, the seed bring a blending of the different fruits, or a seedling different from any in the orchard, and in all probability superior to any of them.

If you were to plant a single Baldwin tree on an island, so far isolated that the bees could not reach it, it might still bring forth fruit, but the seed from this fruit would be sterile and utterly incapable of reproduction. So you see that without the aid of bees, the tree on the island was incapable of reproducing itself, and when the tree had aged and died, the island was without fruit. So it would be with the world—remove the pollenizers of the blossoms, and when the present standing of fruits had past away there would be none to replace them.

You may isolate a single Baldwin tree so far from any other tree that the bees can not carry pollen from one to the other; so that it will be fertilized by its own bloom, and the seed from this tree will bring forth a Baldwin—one that is slightly inferior to the parent tree. If this in turn is allowed to be fertilized from its own pollen there will be a still lower order of the Baldwins. This work of retrogression might be carried on until the once fine apple had degenerated back step by step to the origin of the apple, which, by our best authorities, is said to be the common wild rose. All our fruits have had their origin equally low, so that the bee, in bringing them up to the present high standard, has doubly earned its title, "busy bee." And as the natural inclination of the bee is to zeal and untiring industry in its work, we may expect that thru its efforts the progress of our fruits will be ever onward and upward to a still higher perfection. Venango Co., Pa.

❧

No. 1.—EXTRACTED HONEY PRODUCTION.

A Near Approach to Control of Swarming—A Cause of Poor Wintering Discust—Shallow-Hive Uses.

BY R. C. AIKIN.

IN the preceding articles on comb-honey production, the matter of building up the colonies before the honey-flow was fully discust. As the management is the same for either comb or extracted, so far as the general spring work is concerned, up to about the opening of the flow, we need not repeat that here.

As in comb-honey production strong colonies are a necessity to best results, so in extracted, tho not so imperative. Almost invariably when extracted honey is produced there is much ready comb in the extracting-super, and where bait-combs are a great help in comb-honey supers, the greater quantity used in extracting-supers is proportionately beneficial. Where a comb-honey colony will scarcely take hold in a super at all, the colony with combs for extracting will go at once into the extra. The surplus strength of the colony being drawn to the super-combs, and finding storage-room, the brood-chamber is left largely to the queen, and the congested condition so favorable to swarming is materially decreast, and with it swarming decreases. So very much more easy is it to control the swarming thus, that we may make it *almost* a qualified success.

There is one thing to keep in mind, and that is, that when extracted honey is produced the very thing that so largely stops swarming—*i. e.*, plenty of brood-room below and storage-room above—leaves the colony with a host of bees in the fall and a limited amount of stores. I have produced both comb and extracted honey for many years, using like hives many times for both, and in the same apiary, and after starving hundreds of colonies of bees because of the shortage of stores in the extracted stock, I now unhesitatingly declare in favor of larger hives being used when extracting than for comb.

I say I have starved hundreds of colonies of bees. Some of them were simply and purely starved outright because there was no honey left for food. Many, however, were, more properly, stinted to their death, and to my financial loss. I will tell you how it comes about:

A comb-honey colony building comb in sections will fill the brood-combs very full of honey, and in so doing crowd brooding to the minimum. Not every comb-honey colony will do this, but the greater part do, so much so that it becomes a settled rule. Much honey—minimum amount of brood and normal colony to consume the stores—leaves the bees in shape for fair wintering. A feature of the heavy, close-packt stores is that the cluster can not get far from the honey, so feed and winter better.

With those for extracted honey the conditions are almost the reverse. Much store-comb, and often extracted, stores *very largely* going to the super, a brood-chamber well filled with brood, pollen abundant, and little honey. The hive is "hefted" for stores, or guest at, the greater weight of bees, brood and pollen making the owner think them sufficient to winter all right. In reality the stores are scanty; instead of thick, well-stockt combs they are thin and lank, are scattered in outside combs or distant parts of the hive, and out of reach except in mild weather, and the colony starves. We find *some* honey in the hive, and say they could not have starved, yet that is *often* just what happened.

Suppose the colony survives the winter and gets to the spring with scanty stores, the limited supply in sight causes them to curtail breeding, and they fail to grow in strength and prosperity as they should, are weak all spring, and never get to be a prosperous and profitable colony, and simply for lack of a few pounds of honey. It is ever so much better that the colony must move honey to have breeding-room, than to have to be hunting every corner of the hive to get what little there is scattered about. I tell you the truth in these comparisons, truth that has been burned into my memory by a very large experience and at much cost of wealth. When my extracted-honey colonies would not winter equally with comb-honey stock, and that in the same yard, same hives, same stock, everything the same save the difference herein described, I was forced to find the cause, and I found it.

Now I give my extracted-honey stock from 1/5 to 1/3 more brood-chamber room, and, many times, more than this, and the wintering is equal, or perhaps a little in favor of the extracted stock, because they go into winter with a great abundance of bees, and the wintering is especially noticeable in colonies having unusually large hives. I have just been examining about 100 colonies run for comb honey, and about 150 run for extracted. Some of the latter were wintered on 12 to 18 Langstroth frame capacity combs, having just about twice the stores the smaller hives had. They had all the breeding-room wanted in the fall; the hives were two-story, and the bees workt *upward* in winter, and always had stores above them. I must tell you that some of those 2-story colonies are not equaled in the amount of bees, brood and stores by a single one of the smaller hives, and I have been borrowing stores from the big ones to help weaker ones.

Brethren, these ideas are worth looking after. Early and later yielding of nectar help to overcome some of the evil effects of this short-stores-and-small-hive matter, but if you are not blest with the early and late flow, better look into this question.

Now, since it is so important to have the larger hive for the extracted stock, there comes in a very nice arrangement by which we may go far toward the full control of swarming. The presence of great abundance of store-comb in the super drawing the storage work there and easing the brood-nest pressure, does do away with much swarming, *because* the queen has *much laying-room*. If there can be plenty of *empty* comb between the brood and the *entrance*, it decreases the swarming about as much as the store-comb does in the super, hence the two together reach well nigh the goal—non-swarming—if the two can be brought to bear in the proper season. To make very clear just how it works when applied to the best advantage, I will tell just how I have made the application in many cases:

I am running two out-apiaries that are in American hives. Some of these hives have been modified or changed from the deep suspended frame to a shallow standing frame. (The matter of hanging or standing, self-spacing or to be spaced, shallow or deep frames, has nothing to do with the principle, tho some of these features have to do with a successful, easy and expedient application.) Two of the shallow chambers equal one of the full depth, being the same except in depth. One of the full depth, or two of the half-depth, equal about the same as a 10 Langstroth frame hive capacity.

Suppose I winter and spring a colony in two sections of shallow frame hives. There is no trouble until about the June flow, then they want to swarm. Just before they get the swarming-fever, I take away both the sections containing the colony, place on the stand (bottom-board) a single section or set of frames containing *dry brood-combs;* place on this the section of the original hive containing the least amount of brood, put over this an excluder, next an extracting-chamber, and above all the section of the hive having the *most brood*. This would then be recorded as "dry—brd—extra—brd," entering also the date of record. This means that, counting from the ground up, they have a set of dry combs, a set of combs of brood, an extracting-super, and on top a set of combs of brood—three shallow sets and the super.

I have used full-depth hives in this manner except that it would be a set of dry combs on the bottom, brood-nest next, and extracting-super on top over an excluder. This being done before the colony gets ready to swarm, has a *very* decided tendency toward no swarming by colonies so treated. For tremendous colonies the two regular brood-chambers are all right, but in this case there can not be a hive of brood on top. Brood above the extracting-combs draws the bees well up, and the honey is stored in the super and that top brood-chamber. Such arrangement without the dry combs beneath will go far toward keeping them from swarming, but not in so satisfactory a degree. That brood on top I leave until I have occasion to look into the hive again, or for a week or two, when it can be used in making increase or adding to nucleus colonies. If the brood is in shallow frames, two sets put together in a new colony and supplied with a queen make a very nice colony; the hatching bees promptly populate it, and the honey stored as brood, hatcht while yet on the parent hive, makes them at once almost ready for winter.

My field supplies little nectar outside of June, July and August—from about June 15th to Aug. 15th—and I find that these big hives, composed sometimes of three or four shallow sections, or two deep chambers, or one deep and one shallow, give me the best colonies. Colonies in single-story hives I have to feed in May or early June, but the big ones not.

I do not want this article to be read as a boom for shallow chamber hives, but one fact stands prominent—the shallow frame enables us to contract or expand the brood-nest without adding too much, and gives us a chance to place brood quickly above the super to stretch the colony, yet that brood on top having served its purpose can be quickly placed back in the brood-nest. The shallow hive makes easy the application of other principles where the deep one would be too bulky or expensive. This system is not suitable for comb-honey work, but is a success in the production of extracted honey. Larimer Co., Colo.

A Plague of Bees in Africa.

BY C. V. A. PEEL.

I HAD been enticed into the Haweea country, N. E. Africa, by reports of elephants. From the time I set foot in that miserable country to the day I shook off the dust on leaving it I was pestered by a perfect plague of bees. The country was nothing but a wilderness—stony ground covered with thin thorn-bushes. The afternoon of my arrival, after a terribly tiring march over stone and rock, I pitcht camp by the side of a deep well in the solid rock. When my tent was up I threw myself on my bed—for I was dead beat—hoping to find rest. Not a bit of it. I jumpt up quicker than I lay down, stung in the back by a bee. "No peace for the wicked," I said to myself as I took up my sponge, intending to have a bath, only to be stung in the hand by a swarm of bees which had settled upon the damp thing, and were eagerly sucking up the moisture. It was becoming more than a joke. I poured out the water into my India-rubber bath amidst a buzz of approval from my thirsty companions. I took off my clothes, being stung in the attempt by a bee which had crawled thru my stocking, and got into my bath. This, apparently, was the signal for a combined attack upon me. After the first spongeful of water had gone over me, a perfect swarm of the pests attackt my head, whilst dozens crawled all over my naked body. Twice was I stung in the head, and three times I pickt out the stings from my body.

At length I could stand it no longer. I ran amuck, threw bath, pail, water, sponge, towels, and bad language in every direction, dasht out of my tent and fled naked out of my zareba, followed by a grinning crowd of natives inquiring if I had taken leave of my senses. I sat for the rest of the afternoon in the shade, and as far from any water as possible, until the sun set, not venturing back to my tent. When the golden orb at length disappeared, I returned to camp in my birthday garments, feeling rather chilly, and anointed my numerous stings with ammonia. Upon my tent floor I discovered with my bare feet there still crawled the little demons, but they had mercifully ceast to fly for the night.

The next day was destined to be the most miserable I spent in this detestable country. From the very moment the sun peept up over the horizon until it set like a great ball of fire in the west, an enormous army of bees pestered and annoyed me. I could not eat, drink, sit, sleep, stand nor walk, but they would crawl all over me and sting me. It was all very fine to say, "Do not touch them, and they will not sting you," but the plagues tickled me so dreadfully as they crawled up my breeches, down my socks into my shoes, round my head, and over my whole body, that it was impossible not to keep brushing them away. I was stung almost everywhere.

I was driven from my tent into a native tent, from there to the shade of a tree, from the tree to my tent again, but all to no purpose—the villains still pursued me. At length, in despair, I sat in the heat of a roaring fire. The scorching rays of the sun, the blinding heat of the fire, and the poisoning heat developt by my numerous bee-stings nearly drove me into a frenzy. All day long I waited on the chance of the men I had sent out in every direction coming back to camp with news of elephants, but they came not.

The bees appeared to attack me and my "boy," and nobody else. Poor Deria stampt and jumpt, and curst and swore from morning till night. But then Deria was always in hot water. If a man threw a stone, it was always Deria's head which would intercept it. Whilst on the march before daylight, if the branch of a tree protruded beyond the rest, Deria's face would feel its thorns. If a camel fell, and store-boxes flew in all directions, who was always found to be underneath but Deria? No wonder he wore such a disagreeable expression. The only thing against the willing boy were his looks.

At night all my men returned reporting only old elephant spoor.

Next morning I sent them all out again in different directions, while I determined to wage war upon my enemies, the bees. Accordingly I started off, accompanied by some half a dozen of my men, in search of their dwellings. We had not proceeded more than a few hundred yards when we came upon a huge ant-hill about 12 feet in height. In and out of a hole, high up on the ant-hill, came bees by the thousand. We held a council of war. I suggested we should make a large fire close to the ant-hill before commencing the attack. My men, who were very anxious to get at the honey without the slightest delay, pooh-poohed the idea. No, they would throw stones at the huge pillar, make a breach of it, and abstract the honey.

No sooner suggested than attempted. We attackt the stronghold with stones until a gaping hole was made in the fortress, when out issued thousands upon thousands of the enemy. The attacking force fell backwards into the bushes, and were literally covered with the enemy's poisoned arrows. Those who had not fallen rusht madly thru the bushes, swinging their arms about and tearing their sides with the thorns as they dasht panic-stricken thru the bushes. For a moment I stood still and fairly shrieked with laughter, but the instant I took to my heels I was followed by the enemy, who wounded me in the head in several places. With the utmost difficulty I gathered together my scattered forces, some of the men having run a distance of a quarter of a mile away. Oh! how I laught when I saw the swollen faces of my men. One of them had both his eyes bunged up, and his under-lip was swollen and pouted out to such an extent as to make him barely recognizable. The groans and "Allahs" emitted on every side betokened our utter defeat.

We now set to work to collect wood, which we piled at the base of the ant-hill, and set fire to it. Sending back a man for a piece of rope and a couple of axes, we attacht the former around the center of the pillar, and with one united pull the wall of the stronghold fell with a crash. An enormous swarm of bees shot up into the air, but the heat from the fire was too great for them. The citadel was taken. Attacking the earth with an axe, we at length got at the hard-earned spoil. Every now and then a shriek would go up as one of us got stung! but when the great heat from the roaring furnace at last drove us back, we had filled two large bucketfuls of most excellent honey.

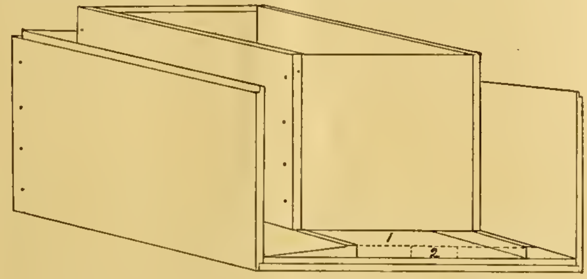
As no fresh elephant spoor could be found, I packt up next morning and marcht, heartily glad to get out of the country, and its plague of bees. I laught afresh at the sights of my men as I applied ammonia to their poisoned wounds.—The Field.

A New Winter-Case Arrangement.

BY F. B. THOMPSON.

SOME time ago I wrote that I used a hive, or rather a winter-case, that I had not seen on the market, and think it a complete success. For those wishing to winter bees on the summer stands, which is my only successful way on account of dysentery, I have seen nothing so easily manipulated, simple in construction, and cheap.

The bottom-board, which I use for both summer and winter, is cut 3 or 4 inches wider and longer than the inside hive-bodies, according to the width of chaff space desired. The edges may be rabbeted or not, as the winter-case which is made of 9-inch shiplap siding, can rest on the edge of the bottom-board, but is safer in a rabbet. Then nail a frame on the bottom-board for the inside hive to rest on, the thickness of which will regulate the depth of the entrance, and let the front ends extend out to the outside case. This frame should be nailed so that there will be equal chaff space all around, and be beveled off at the sides and back to run the rain off in summer, as indicated in the outline drawing.



1—*Summer Entrance.* 2—*Winter Entrance.*

To prepare for winter, set the outside cases over the hive and down in its place on the bottom-board, and then lay a thin strip, as wide as the chaff space, across the entrance-frame to keep the chaff out of the entrance; then pour in the chaff, and pack tight with a stick, and put on the chaff cushion and cover.

I have said nothing about the inside hive arrangement, as this case will not interfere with whatever may be desired. I use a ¼-inch honey-board in winter, with two holes to feed thru in the spring, and a 3-inch entrance, altho the entrance may be cut as large as in summer if desired.

The cover I made of tin, for the chaff must be kept dry. I use the same cover in summer, but it is a little warm and unhandy.

My bees in winter were quiet and dry, and came out in the spring strong and healthy, without loss.

Wayne Co., Ind.

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My Experience as a Bee-Keeper in Tennessee.

BY ADRIAN GETAZ.

I BEGAN bee-keeping in 1886 or 1887. I first bought four bee-gums, paying $5.00 apiece, taking the pick of the apiary. I made my hives according to the instructions of some European books advocating the Dadant plan; only I made them smaller, as I thought such would be better for this country. The only American book I had was Quinby. I soon after bought the "A B C of Bee-Culture" and subscribed for Gleanings in Bee-Culture. It was a revelation to me. I concluded that I would begin by following the "authorities," with the exception of experimenting on a small scale. Well, I did not do any good. I blamed the bad seasons, the greenness of the apiarist, accidental circumstances, etc. Gradually I realized that I was confronted by not only one but five conditions, viz.:

1st. Considerable loss of bees in winter by coming out during warm spells, and loss of brood reared during these spells and chilled afterward.

2d. Excessive swarming at the expense of surplus.

3d. Bee-paralysis.

4th. Long but very irregular flow, never strong.

5th. Poor locality, decidedly.

There I was. However, all this did not come all at once, but gradually.

WINTERING BEES.

I use chaff hives, or rather, some equivalent, only one and a half or two inches of any kind of packing that happens to be handy. Not only the brood-nest but the supers and covers are double-walled and packt. Only ½-inch lumber is used, and the weight is not increast. The advantages are, protection against cold, or rather, variations of temperature during the winter, and against excessive heat in summer. And in the spring of the year that protection keeps the supers warm, and induces work therein much sooner, which, in this locality, is a very important item.

The Dadants say they would rather have their bees flying occasionally. That's all right, if occasionally means three or four times during the winter, but when it is an almost weekly "condition" the loss in bees and brood is fearful.

EXCESSIVE SWARMING.

This is chiefly what decided me to adopt large hives and correspondingly large colonies. I had some correspondence with the Dadants, and stated that there was no demand here for extracted honey. They replied that a market could be created, that they had done so. Unfortunately our honey is rather dark and of very variable quality, and to create a special market it is necessary to have honey of good and uniform quality.

As I expected, large hives prevented swarming only to a certain extent. I then experimented with non-swarmers, and with fair success. But while experimenting two of my colonies became queenless somehow or other, and while queenless filled two supers each in a short time.

Needless to say that "removing queens" became my hobby. However, in this locality removing queens has a serious disadvantage. The swarming occurs in May; our last honey-flow is in July. Removing queens in May means the loss of the very bees which would be field-workers in July. It is necessary to requeen, otherwise, if the queen is not vigorous, swarming may occur again later.

Later on I discovered that by using the kind of hives described above, giving all the bait-sections possible, putting on the supers early and protecting them against the cold nights, having queens not too old, etc., I could reduce the swarming to from 5 to 15 percent of the number of colonies. So now I only treat the colonies that actually swarm, or that I discover to prepare for swarming. This I do by removing the queen and letting the young queens fight it out (a queen-trap is necessary), or remove the queen and queen-cells, and give a young queen, but not until they have been at least four days without unsealed brood. This point is the key to success. Giving a young laying queen before would not help very often. The queen-cell building would go on all the same, but will not be resumed after a few days without unsealed brood; unless later on the queen fails or is lost, or the hive becomes too hot or too crowded. But such things can be avoided.

BEE-PARALYSIS.

For quite a number of years I did not know that there was bee-paralysis in my apiaries, and in fact in all apiaries of this section of the country. I had seen, every spring, black, shiny bees in countless numbers, but I thought they were robbers. I had seen bees die rapidly and thought they had been poisoned, and noticed other irregularities, but never suspected what was the matter for several years. This condition is not entirely solved.

I keep camphor in my hives from early in the fall until as late in the spring as possible. That is so as not to injure the surplus as the honey takes the odor and also the taste of the camphor. As long as the camphor is there the malady will not develop itself, but will reappear invariably, more or less, about six or eight weeks after, showing that the presence of the camphor has only prevented its development. It is necessary also to renew the queens every two years at least, as they eventually contract the disease, and, if not superseded before, eventually lay infected eggs. Needless to say that the loss of the colony follows almost invariably. This is what some writers have called the second stage of the disease.

HONEY-FLOW AND ITS MANAGEMENT.

This and generally all the Southern States have a difficult honey-flow to manage. It lasts several months, or rather there is a succession of flows during that time. But some of these flows fail, some are very abundant for only a few days, some last longer, but are only light. And the worst of it is, you don't know which flows will give, and which will fail, or how many will give, and how much. This necessitates the keeping of strong colonies thruout the whole season, and every season, so as to be ready for any flow, big or small, that might happen.

Building up a colony strong, *a la* Doolittle, just for a two or three weeks' flow, and letting it go down afterward is easy enough, but keeping it strong during four months is quite another thing, and Doolittle's methods are then a stupendous failure.

POOR LOCALITY.

This condition is as far from a solution as ever. I will have to move. I could go to the mountains and get tons of honey, but I would not like to live there. Then, the honey is like down here—of inferior quality. Another scheme would be to buy poor, worn-out land, stock it with sweet clover, and enrich it, and eventually sell it for three times the buying price, besides having the honey for the trouble. "I don't know" what would be the best.

Knox Co., Tenn.

Production, Care, and Sale of Extracted Honey.

BY H. D. BURRELL.

While extracted honey may be produced in any movable-frame hive, it is best to use a hive adapted to the work. In this hustling age, one who would not "get left" in the race, even in honey-producing, must cut all the corners he can. In long practice, I have found a "divisible-brood chamber" hive best for extracting. With such a hive, rousing colonies may be had by easily increasing the size of the brood-chamber, and simply manipulating its parts. I have united many colonies at about all seasons when bees can be handled, by merely smoking them a little and placing one hive upon another, with nothing between, and have yet to have harm done by quarreling. If one queen is superior, kill the other; if not, let the bees manage that matter. If we want increase, it is readily had by division; and I have easily workt thru whole swarming seasons without a swarm, by a plan by which it is not necessary to go to the apiary oftener than once a week. Such hives are also good for wintering bees, indoors or out. Honey in them can be handled easily by the case, which saves time, trouble, and bee-stings, and there is no danger of the frames sliding together, and causing leakage.

It is best to have plenty of extracting-combs, and not let the bees run short of room. Queen-excluding honey-boards simplify the necessary work. When honey is about three-fourths capt over, it is usually ripe enough to extract; but it is better to tier up and leave it on the hives until the end of the season. In localities where there are two crops in a year, a light-colored one and a dark, with a dearth between, it is better to keep the two crops separate, by removing the light honey just as the dark flow is commencing. In the hot weather usually prevailing at this season, honey will soon ripen in the hive, and may be extracted if not capt at all. At the end of the dark honey-flow it is usually cold or cool weather, and unfinisht honey will not ripen nor be capt over. This unripe honey should be kept separate, and sold for manufacturing purposes, or to some other cheap trade. Sell none but well-ripened honey for table use, if you would build up and hold a profitable retail trade. That is a trade that pays. It is not necessary for honey to be mild and white to be good. I have many customers who prefer good buckwheat or goldenrod honey to white clover.

In taking honey from the hives it pays well to have some bee-escape boards. They save smoking, shaking and brushing bees. The Porter is the best of the many escapes I have tried. Insert them at any time when convenient, and if there is no brood or queen above them, the upper stories will usually be practically free of bees in 24 hours or less. Extracting from the brood-chamber is seldom necessary or advisable, with good management.

It is essential to have a bee-tight extracting-room; and a stove in it greatly simplifies the work. Almost any small room may be cheaply made air-tight, and easily warmed, by lining it with heavy building-paper, lapping the paper well, and tacking lath over the joints. In such a room honey can be easily extracted at any convenient time, summer or winter. If the weather is cool or cold, pile the honey on empty caps or temporary benches, above head-height if possible, heat the room to a temperature of 90 degrees, or higher, and keep it so for 24 to 48 hours, according to the length of time the honey has been exposed to a low temperature. It will then extract easily. Some kinds of honey will soon candy in the comb, and must be extracted soon after being stored; but most honey keeps best in the combs, and it is better to leave it there until wanted for sale or use.

An active 12-year-old boy, with any 2-frame extractor, will throw out honey as fast as almost any man can uncap it. Expensive, reversible extractors are nice to have, but seldom necessary. It is best to have two uncapping-knives, and keep one all the time in hot water, changing often. A small oil-stove is handy for this.

For storing extracted honey, or shipping it in a candied state, or for holding cappings and draining them, I know of nothing handier or much cheaper than lard-cans. They hold about seven gallons; and I get them of my groceryman at 10 cents each after the lard is sold; and can get them new of the butcher or hardware man at 25 to 30 cents. For uncapping, arrange a can in a convenient place, put a wooden frame on top to rest the honey and clean the knife on, and let the cappings drop inside. Have a strainer made of tinned wire-cloth, 12 meshes to the inch, soldered to a circular tin rim with sloping sides, and a little larger than the top of a can. Place this, convex side up, on a can of cappings, and invert all on another can. After the cappings are well drained, put them thru a solar wax-extractor, even if it is neceesary to wait for warm weather in the spring.

In warm weather the bits of comb and other foreign matter that will always get into honey while extracting, will soon rise to the top, and may be skimmed off. In cool weather, however, they must be strained out, and the honey must be heated in order to do it quickly. A good and simple plan is to put it in 5-gallon screw-cap tin cans and heat it slowly to a temperature of 120 to 115 degrees. A piece of iron or stone one inch thick placed under one side of the can will prevent danger of burning the honey. Attach a cheese-cloth sack, about 5x12 inches in size, to a sliding honey-gate, screw the gate on the can, tip it on one side, and draw the honey thru the sack into any convenient receptacle. A hole made in the top of the can with an awl, or some other sharp-pointed tool, will give vent, and the honey will run more freely. The hole can be stopt when necessary with solder or wax.

It saves watching, and some danger of having a muss to clean up, by having the extractor on a bench high enough so a can on a platform scales can be set under the honey-gate. A tin funnel, unusually large at both ends, is often a very handy implement. Get a Daisy thermometer for 25 cents, to test temperature with, and be very careful not to let the honey get too hot. That will injure the color and flavor, and melt the wax in it, which will adhere to the inside of the can, or spoil the strainer.

Don't use galvanized iron for any purpose where honey will come in contact with it. The acid in honey affects the plating. I once had an extractor-can made of it, and if a small quantity of honey was left in the can a short time it acquired a peculiar, offensive taste and smell.

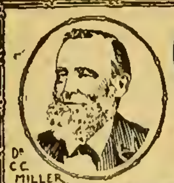
From the finer flavored honeys it is better to exclude the air, but the stronger flavored kinds are improved by exposure to the air in a well-ventilated room, care being taken of course, to exclude dust and insects. If you are troubled by ants, make a bench to keep honey on by laying 2x6 inch pieces of lumber edgewise on the floor, and covering them with boards. Make a chalk-mark one inch wide entirely around the middle, lengthwise, of the 2x6 pieces, and not an ant can crawl up over it. They can't get a foothold.

For shipping liquid honey, perhaps the square tin cans are best, but for cheap honeys, barrels or half-barrels are cheaper.

Produce a good, well-ripened article of extracted honey, "get a hustle on," and sell it directly to customers yourself for a fair price. Do this and observe the Golden Rule, and you will find pleasure and profit in the business.—Bee-Keepers' Review.

Van Buren Co., Mich.

York's Honey Calendar for 1900 is a 16-page pamphlet especially gotten up to create a demand for honey among should-be consumers. The forepart was written by Dr. C. C. Miller, and is devoted to general information concerning honey. The latter part consists of recipes for use in cooking and as a medicine. It will be found to be a very effective helper in working up a home market for honey. We furnish them, postpaid, at these prices: A sample free; 25 copies for 30 cents; 50 for 50 cents; 100 for 90 cents; 250 for $2.00; 500 for $3.50. For 25 cents extra we will print your name and address on the front page, when ordering 100 or more copies at these prices.



QUESTIONS AND ANSWERS.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Perhaps Pickled Brood.

Enclosed find sample of brood taken from the bees this morning, only one colony is affected.

1. What is the trouble with the brood?
2. What is the cause and cure?
3. If no cure, what shall I do with the combs and hive?

IOWA.

ANSWERS.—1. I suspect it is a case of pickled brood.

2 and 3. Old and bad pollen is supposed to be the chief factor in producing the disease, and as your bees by this time have plenty of fresh pollen, the disease may disappear. The leaflet on pickled brood will tell you about all that is known about the disease, but these bee-diseases are sometimes very serious matters, and I am not an expert in them, so it would be well for you to send a sample to Dr. Howard.

◆

Moving and Italianizing Bees.

I have five old-style box-hives of black bees, and want to move them 20 miles, change them to Langstroth hives, and Italianize them. How must I do all this work, and when must I go about it? MISSISSIPPI.

ANSWER.—It would take more space than the printers would allow me here to answer fully your questions, which you will find mostly answered in your text-book on bee-keeping. Other things being equal, the sooner all is done the better, altho you may do better to let the bees swarm before transferring, putting the swarms in new hives, and transferring 21 days after swarming. The chief thing in moving is to see that the bees have abundant ventilation, by means of wire-cloth at the entrance and on top, having the frames run across the wagon. If you don't mind night work, the bees will suffer less to be moved at night.

◆

Queen-Cell Questions.

1. On page 103 (1899), F. L. Thompson says when you are cutting *all* the queen-cells you can shake the bees off the combs. What I want to know is, in what way does it injure the young queen in the cell to shake the bees off the combs? Would shaking the combs do in place of cutting cells?

2. Under what conditions is a queen-cell protector necessary? WISCONSIN.

ANSWERS.—1. The young queens in the cells are very tender at certain ages, and a rough shake might produce death, or, what in some cases might be worse, such an injury that defective wings or legs might result. If this latter should happen, you can see that shaking would not do instead of cutting out cells.

2. It is necessary when you want to give a cell to bees that are not queenless, or that are not yet conscious of their queenlessness. Also, when more than one cell are in a hive, and you do not want the first queen that emerges to destroy the others.

◆

Transferring Bees and Rearing Queens.

Ten miles from here I have now four colonies in Langstroth frames, two in one place and two more a mile away. May 27 I went to see them with extra hives, etc. At J. W. Foster's my colony swarmed May 11. They put it in a box. About May 24 they came out again, but went back. How many other times they swarmed nobody knows. There were about a dozen empty queen-cells in the hive. I could not find a queen or an egg, only brood ready to hatch, and about a tablespoonful of honey. Now this is what I did:

I transferred all the bees out of the box by driving, and shaking the balance on the open top of a new hive. I then placed a super on both hives and divided the comb, putting it in the supers of the two hives. I expect the bees to take an egg from that comb and put it in a queen-cell and thus supply themselves with a queen. At W. Ferguson's I divided my colony May 17; both colonies were storing honey. They had only brood-chambers. One had no queen or eggs, or sign, as I could see, so I exchanged a couple of frames so they could be sure to have eggs with which to rear a queen.

This is the way I save my swarms from absconding: When I imagine they are about ready to swarm, I transfer them by placing a new hive on top of an old box with the queen with half or more of the bees. I don't see any use in using an extra box and handling them twice.

WASHINGTON.

ANSWER.—I'm not sure I fully understand your performance, except that the bees had empty queen-cells and also had eggs, and you expect the bees to take an egg from a worker-cell and put it in a queen-cell. They'll fool you—sure. I never knew a case where queenless bees did such a thing, and never heard of one. But they will proceed to rear a queen from a larva in a worker-cell by feeding it properly and enlarging the outer part of the cell. The brood being in the super, the young queen will be reared in the super.

You are entirely right to drum bees directly into the new hive without first driving them into an extra box. The latter plan is only necessary where the new hive has a fast bottom, or where the hives are so much unlike in size that one can not be made to fit on the other.

◆

What to Do to Stop Robbing Bees.

What are some of the methods employed by experienced bee-keepers to stop robbing? The "A B C of Bee-Culture" says, "Contract the entrances," but that does not seem to stop it.

Will Mr. McIntyre's trap (described on page 254 of the "A B C of Bee-Culture,") work where several colonies are being robbed, and a person has no honey-house, or any such place, to which to take the robbed colonies? What is the slow process of robbing which he refers to but does not explain? CALIFORNIA.

ANSWER.—In probably the majority of cases robbing starts with a colony that is queenless and of little value. Robbing such a colony may be hindered for a time, only to be commenced again as soon as your back is turned, and in the end you will not save the weakling. You may as well break it up. If there are enough bees and brood to be worth saving, give to some other colony, and take away most of the honey, but do not take away all, and do not take away the hive. Leave the hive for the bees to work away at, and when they have finisht the last drop of honey in it they will keep on for a little time, and then quietly leave. If you take away the hive, they will pitch into another hive near by, and perhaps master that.

If the colony has a queen and is worth saving, you may beat the robbers in this way: Pile straw or hay at the entrance and continue it up to the top of the hive and around the sides; in fact, bury the hive in straw, and keep the straw sprinkled with water until the robbers give up.

Mr. McIntyre's trap is not generally used in connection with a honey-house, but if anything of that kind is needed an ordinary cellar will do.

I do not recall what he means by slow robbing.

◆

Yield of Buckwheat Honey.

How many acres of buckwheat will it take to pasture 100 colonies of bees? WISCONSIN.

ANSWER.—Any guess upon the matter will probably be very "rough" indeed, and I will leave it for some one else to make. M. Quinby estimated that an acre of buckwheat would yield 25 pounds of honey a day. If we estimate that it would take from 5 to 10 colonies to gather this, it would take from 10 to 20 acres to pasture 100 colonies. But there's a great difference in the yield of buckwheat. In some places it is quite reliable; in others it fails oftener than it yields nectar.

AMERICAN BEE JOURNAL
ESTABLISHT IN 1861 OLDEST BEE-PAPER IN AMERICA
DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS

PUBLISHT WEEKLY BY
GEORGE W. YORK & COMPANY,
118 Michigan Street, Chicago, Ill.

[Entered at the Post-Office at Chicago as Second-Class Mail-Matter.]

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The Subscription Price of this journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "Dec00" on your label shows that it is paid to the end of December, 1900.

Subscription Receipts.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows you that the money has been received and duly credited.

Advertising Rates will be given upon application.

VOL. 40. JUNE 21, 1900. NO. 25

EDITORIAL COMMENTS

NOTE—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

"That Poor Joke" is what the Farm, Field and Fireside calls the newspaper yarn printed on page 249 of this journal, and credited to the New York Mail and Express. The story was copied from the New York Mail into the Farm, Field and Fireside, with no hint that it was anything but news, whereupon we sent a letter of protest to the publishers of the Farm, Field and Fireside. This latter paper seems deeply imprest with the fact that those who have to do with bees are a very serious people, and is evidently very much surprised that the American Bee Journal could not see at a glance that the whole thing was "intended as a pleasantry," and closes by saying:

> "All this is sad if it is not funny. If there is a child six years old who reads the Farm, Field and Fireside, and who does not know that the bee makes over what it gets from the flower, or from the feeding-tray, and produces real honey; and if there is any one of our readers that did not see the 'pleasantry' in the glucose story, we certainly recommend to them a vacation, and a little free air and sunshine. They are working too hard. And our good friends of the Journal need to cheer up and expend a little of the proceeds of their industry in making a good bee-paper, in a playtime in the country. We would be pleased to join them in a good, old-fashioned bee-hunt, such as we used to have with our father, either in apple-blossom time or later, when the goldenrod is out, and the bees are happiest."

The need of "a playtime in the country" is felt to the full; and there is no doubt the Farm, Field and Fireside people would be pleasant companions, but a bee-hunt in apple-blossom time would be somewhat ill-timed, seeing that is the time in the year when the bees' stores get to their lowest. However, it is not easy to see how a playtime in the country would help toward nullifying the ill effects of "that poor joke." Fven admitting that the readers of the Farm, Field and Fireside are so intelligent that they need no vacation, it does not follow that some of the borrowers of the paper might not be misled.

It is a matter of history that not many years ago the statement was made as a "pleasantry" that glucose was put into artificial comb, sealed up without the aid of bees, and put upon the market in large quantities. Of course, it was much easier to see the pleasantry in that than in the "poor joke" in question, but for all that it was taken seriously by the great public as it made the rounds of the papers, giving a severe blow to the sale of comb honey from which it took years to recover. That this "poor joke" will do harm in the same way is hardly doubtful, and those who have helpt to speed it on its way ought to be glad to undo so far as possible the harm they have done to an industrious, if also a very serious, class of people.

It is to the credit of the Farm, Field and Fireside that it has done its part toward discrediting the "poor joke," and it would be still more to its credit if it could have made a manly retraction without the attempt to bring ridicule upon those who made a proper protest against its unintended injustice.

It is to be hoped that good, and good only, will come to the six-year-old readers of our esteemed contemporary from its wholesale recommendation of a vacation, for it is certain that not one of them knows "that the bee makes over what it gets from the flower or from the feeding-tray and produces real honey," seeing that even a brilliant six-year-old can hardly *know* what is *not true*.

Keeping Up Honey-Prices.—Mr. E. B. Foster, in Gleanings in Bee-Culture, gives his method of trying to maintain the present prices of honey in his home market. Here is a copy of the letter he has sent to the bee-keepers in his immediate locality:

> MR. BEE-KEEPER:—I take this means of laying before you a matter of much importance and interest to you, which I trust you will carefully consider. The present indications are such that we can look for some surplus honey this season. Now, the vital question that confronts us will be the converting of that honey into the largest possible amount of cash. You no doubt have observed the steady advance in price of nearly all articles we consumers have to buy; you are also aware that the honey quotations rule about 20 percent higher than last year. Why not maintain the present price of honey by combining our interests and holding out for the advanced price, thereby causing that which we have to sell to compare favorably in price with what we have to buy? The only way we can accomplish the desired result is not to sell our honey for less than the present price, and prevail upon our neighboring bee-keepers to do likewise. As an illustration:
>
> A farmer bee-keeper, a year ago, had some dark and travel-stained comb honey which he disposed of at a price that enabled the grocer to whom he sold it to put a glaring advertisement in the local paper, "New comb honey, 8 cents per pound." That "8 cents per pound" was a criterion the rest of the season. Every customer whom you told that you were asking 15 cents per one-pound section would say, "Why, I can buy honey at the grocery store for 8 cents." You know the result. While you were not asking more for your fancy white article in nice clean sections than it was worth, you were compelled, nevertheless, to lower your price to meet the values created by that one inferior batch of honey that some thoughtless or ignorant keeper of bees had placed on the market. Our customers do not realize the difference in honey as they do the difference in price.
>
> E. B. FOSTER.

We commend Mr. Foster's sensible plan to bee-keepers everywhere who have a home market for their honey crop. There is no doubt much money lost to bee-keepers every year by reason of some ignorant or careless bee-keepers who do not find out the crop and market conditions, but rush their honey to the grocery store for any amount they can get. Some small bee-keepers seem to think that what they can realize out of their honey is just like *finding* so much money; not stopping to think that they are thus injuring their neighbors who must depend upon the income from their bees for a good share of their living, and who must take an unreasonably low price for their honey because some one has foolishly set the price too low in advance.

We do not think that bee-keepers should ever combine to get more for their honey than it is really worth, but we do say that they ought always to do their best to get a good price for it, for there is little danger of being able to get too much for the best grades of honey. But by using a little co-operation, better financial results should be secured.

LATER.—Right in line with the foregoing is this by Editor W. J. Craig, taken from the Canadian Bee Journal for June:

> "The question presenting itself to many just now is whether the better prices for honey can be maintained when the new crop comes in. Certainly there is an excellent opportunity for making an effort in this direction if bee-keepers will only be unanimous and talk the matter up and work it thru their local associations. The poor-price difficulty originated not with the bee-keepers who depend upon bee-keeping for a living, but with those who make it a side line, and who retail their little in their local market at whatever price they can get for it.
>
> "When talking up price it would be well to keep up quality—this after all has much to do with the free sale of the commodity. Unfortunately, many of our bee-keeping friends are not aware how very sensitive honey is, and how easily it is affected by its surroundings. Keep cans covered and as air-tight as possible, not only for the sake of cleanliness, but to retain the fine aroma of the honey. Much of the distinct flavor of the basswood is lost by the heating and exposure in liquifying."

Bees and Spraying—A Warning.—In the Country Gentleman (a most excellent New York farm paper), for June 7, we find the following by the State Entomologist, which will be of interest to bee-keepers everywhere:

> The Albany Argus of May 22 contained a brief account to the effect that many honey-bees had been killed at Medusa, N. Y., by visiting trees sprayed while in full bloom with an arsenical poison. It was stated that one bee-keeper lost his entire apiary of 100 colonies valued at $500. The report was investigated, with the following results:
>
> Several men sprayed their fruit-trees on Friday and Saturday, May 18 and 19, the former being a bright day. Trouble was first observed on the 20th. Of the condition of his apiary on that day, Mr. W. P. Makely writes:
>
>> "The sight that met my eyes was enough to paralyze any bee-man. In front of each hive lay the full working force of the bees, some in clusters apparently dormant, and others wiggling about as if in great agony. With the appearance of the sun there was a general movement among the bees in an effort to get as far away from the hive as possible. Those that had the strength would try to fly, but could only succeed in making three or four feet before they would drop to the ground. The next day, Monday the 21st, I opened a few hives and found all the workers gone, and a large amount of brood and but a few young bees left. I think that most of the colonies will pull thru, but our honey crop is gone, and we can expect no swarms."
>
> Mr. Makely estimates that practically all the field-workers were lost. Mr. Edwin Snyder claims to have lost between 80 and 95 percent of his workers in his 90 to 100 colonies. Mr. Aaron Jennings has from 200 to 225 colonies, and the first serious consequences were observed on the 23d, when in the vicinity of more than half his hives he could scoop up handfuls of dead or dying bees. Orchards were sprayed on the 21st and 22d, 1½ miles north, and the same distance northwest of this man's place.
>
> A large quantity of dead bees have been received at my office, and they will be analyzed for the presence of arsenic. The destruction was fearful, and there is every reason to think that it was due to poison thrown upon trees in blossom. There is at present a law prohibiting the spraying of trees while in bloom; and this deplorable experience certainly indicates the wisdom of its remaining on our books and being enforced to the letter.
>
> There is a strong sentiment in some sections of the State in favor of spraying trees while in bloom, but practically every economic entomologist contends that all insects can be controlled just as effectually by spraying just before or after blooming, and in many cases the result is much better.
>
> It has been demonstrated beyond all question by experimental methods that honey-bees can be poisoned by visiting sprayed blossoms; but this is the first case known to me where widespread destruction has resulted under strictly natural conditions, most probably as a result of spraying. This case will be closely watcht.
>
> E. P. FELT,
> *New York State Entomologist.*

Certainly, the foregoing illustrates very clearly the importance and necessity of a good law against spraying trees while in bloom, and then a rigid enforcement of such a law. We can hardly believe that any fruit-growers would willfully cause such destruction of their best friends—the honey-bees. Only inexcusable ignorance can be the reason for such conduct.

We hope that in some way the fruit-men may become informed on this subject, which is so vital to their welfare as well as to bee-keepers.

An Important Omission is that of the American Bee-Keeper, where it publishes a very full account of a lawsuit involving a seller of adulerated honey, and then omits the name of the alleged original adulterator. Might as well leave out all personal names as to omit the most important one, we think.

The Weekly Budget

MR. E. S. LOVESY, of Salt Lake Co., Utah, writing us June 6th, says:

> "I have just returned from a trip to Northern Utah and Idaho, and as a rule I found the bee-industry in a flourishing condition; the same may be said as to the fruit."

* * * * *

MR. N. E. FRANCE, of Grant Co., Wis., State inspector of apiaries, in a letter dated June 9, writes as follows:

> "Prospects are not very good for clover honey, but basswood is well budded all over the State, and if the harvest is a fair one there will likely be a goodly number of Wisconsin bee-keepers at the convention of the National Bee-Keepers' Association in Chicago next August."

* * * * *

MR. WM. A. SELSER—the great honey-man of the East—is just recovering from a very severe attack of typhoid fever. In a letter dated June 12 he says:

> "Your letter to hand some time ago while I was in bed. I have had a long siege of it, and without going into details to weary you I will say that the doctor at one time gave me up; and indeed I feel as if I had stept at the edge of the River of Death, and have returned by the mercy of the Great Physician, and am now anxious to seek and fulfill the mission He has spared me for. I am sitting up in my room, and in a few weeks I hope to go out again. Recovery is slow, as my sickness was so severe."

We rejoice with Mr. Selser and his family in his recovery. The world has all too few such men as he. Personally, we can never forget the week we spent in that delightful home when attending the Philadelphia convention last September. Our very best wishes for health, continued happiness, and unusual prosperity, go out to Mr. Selser and his loyal as well as royal family.

H. G. Quirin, the Queen-Breeder,
Is as usual again on hand with his improved strain of

GOLDEN ITALIAN QUEENS.

Our largest orders come from old customers, which proves that are stock gives satisfaction. We have 12 years' experience in rearing queens, and if there is any one thing we pride ourselves in, it is in sending all queens promptly **BY RETURN MAIL.** We guarantee safe delivery.

Price of queens before July 1st:

	1	6	12
Warranted as queens average	$ .75	$ 4.25	$ 8.00
Selected, warranted..........	1.00	5.00	9.50
Tested	1.50	8.00	15.00
Selected tested	2.00	10.50	
Extra selected tested, the best that money can buy........	4.00		

Address all orders to
H. G. QUIRIN, Parkerstown, Erie County, Ohio.
(Money Order Office, Bellevue, O.)
23A14t Please mention the Bee Journal.

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GENERAL ITEMS

Bees Doing Well.

My bees are doing well this year, and this week I am going to build a honey-house for which they will more than pay, as altho I have only 15 colonies I can sell all my extracted honey at 8 cents from our door, and the people bring their own utensils.

I got five colonies of black bees to keep on shares for three years, when the whole outfit belongs to me. During swarming, in the early days of May, as soon as they swarmed, I cut out all their own queen-cells and put in two or three good, large cells from my pure Italians, and one of those young queens keeps 8 standard frames plump full of brood from top to bottom-bar. But I am afraid that I injured her last Friday, when I clipt her wings as I cut too close to the thorax, and when she dropt on the top of the frames she bowed herself up. I will look at her next Tuesday, and see if she is all right.

W. H. ALDER.
Callahan Co., Tex., June 4.

Italians on Red Clover.

Today my bees are busy on red clover around my apiary. There is more white clover than red, but they are working on the red clover too. Those who doubt whether Italian bees work on red clover should be here now.

D. J. BLOCHER.
Stephenson Co., Ill., June 7.

The Season—Putting Foundation in Extracting-Frames.

Since my last report we have had extremely fine weather for the bees, very few cold spells, and scarcely any high winds to interfere with the "Hum of the Bees in the Apple-Tree Bloom." Dandelion has been out for some time, and hives are being packt with brood and honey from the yellow heads.

I had 4 colonies become queenless from some cause, the queen being dumpt just off the alighting-board. In each case she had laid the combs pretty full of eggs, with the last laid mostly drone-eggs. They were all from prime swarms (last year), consequently old queens, and died from being worn out, which was indicated by the queen laying drone-eggs (i.e., the seminal fluid being exhausted for fertilizing the eggs.) I have, however, gotten them supplied with a "yellow" (?) Italian queen from my best stock, and all are laying except one, which was too early for drones, and began laying drone-eggs. I had to supply them with another chance. Their queen is out, but not yet laying.

The rest of my 16 colonies are "boiling over" with bees. I have put an extracting-super under the brood-chambers to check their swarming. And now for my experience in putting foundation in the extracting-frames:

First, I cut a board that would just fit inside the frame, and half as thick as the frame is thick. This is nailed onto another board as large as the

Sharples Cream Separators: Profitable Dairying

The Queen Crank

Is before the readers of this Journal with a petition for orders for as fine Queens as he has ever been able to rear. They are being, and have been for some weeks, reared in triple-decker 10-frame hives, from choice Golden and Three-Band Mothers, in a Golden yard. The Bee-Keepers' Review, of Flint, Mich., for May (which is a special queen-rearing number) tells how it is done. Ask for a copy. Tested, $1.00; untested, 75 cents. Money order office, Warrenton, N. C. **W. H. PRIDGEN,**
24Atf **Creek, Warren Co., N.C.**
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DITTMER'S FOUNDATION Wholesale and Retail

This foundation is made by an absolutely non-dipping process, thereby producing a perfectly clear and pliable foundation that retains the odor and color of beeswax, and is free from dirt.

Working wax into foundation for cash, a specialty. Write for samples and prices.

A full line of Supplies at the very lowest prices, and in any quantity. Best quality and prompt shipment. Send for large, illustrated catalog.

GUS. DITTMER, Augusta, Wis.
Beeswax Wanted.
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PATENT WIRED COMB FOUNDATION
Has no Sag in Brood-Frames.

Thin Flat-Bottom Foundation
Has no Fishbone in the Surplus Honey.
Being the cleanest is usually workt the quickest of any foundation made.

J. A. VAN DEUSEN,
Sole Manufacturer,
Sprout Brook, Montgomery Co., N.Y.
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Yellow Sweet Clover Seed

WE HAVE IT AT LAST!

We have finally succeeded in getting a SMALL quantity of the seed of the YELLOW variety of sweet clover. This kind blooms from two to four weeks earlier than the common or white variety of sweet clover. It also grows much shorter, only about two feet in hight. It is as much visited by the bees as the white, and usually comes into bloom ahead of white clover and basswood. We offer the seed as a premium

A QUARTER POUND FOR SENDING ONE NEW SUBSCRIPTION.

So long as it lasts, we will mail a quarter pound of the seed to a regular paid-up subscriber who sends us ONE NEW subscriber for the American Bee Journal one year, with $1.00; or ¼ pound by mail for 30 cents.

We have been trying for years to secure this seed, and finally succeeded in getting it. It is new seed, gathered last season by an old personal friend of ours, so we know it is all right. But we have only a small supply. When nearly out we will mention it.

GEORGE W. YORK & CO.,
118 Michigan St., - CHICAGO, ILL.

Queens 5-banded QUEENS

Yellow all over—75 cents each; after June, 50 cents each.

By this my friends will see that I have moved from Falmouth, **IND.**, to Merigold, Bolivar Co., **MISS.**, where I am making a specialty of rearing the **BEST** Queens from the best strain of bees that can be found in this country.

Remit by postal or express money order, and address all letters to

DANIEL WURTH,
25E2t **Merigold, Bolivar Co., Miss.**
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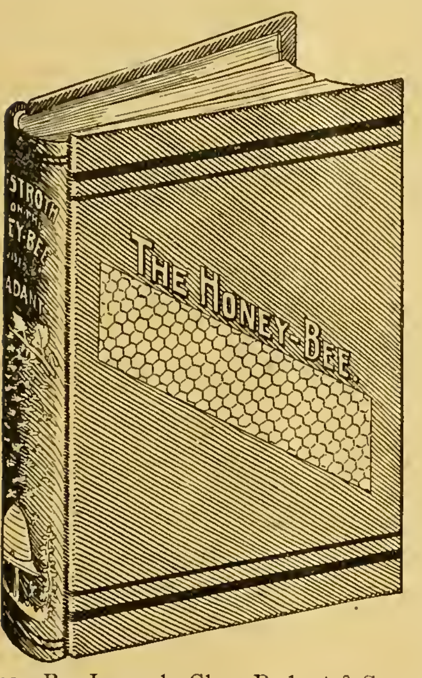
Langstroth on... The Honey-Bee

Revised by Dadant—1899 Edition.

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains over 500 pages, being revised by those large, practical bee-keepers, so well-known to all the readers of the American Bee Journal—Chas. Dadant & Son. Each subject is clearly and thoroly explained, so that by following the instructions of this book one cannot fail to be wonderfully helpt on the way to success with bees.


LANGSTROTH ON THE HONEY-BEE DADANT
THE HONEY-BEE

The book we mail for $1.25, or club it with the American Bee Journal for one year—both for $1.75; or, we will mail it as a premium for sending us THREE NEW subscribers to the Bee Journal for one year, with $3.00.

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Leather-Colored Queens!

Reared from a superior honey-gathering strain of Italians. No disease of any kind. Untested, 50 cents each; dozen, $5.75. Tested, 75 cents each; ½ dozen, $4.25. Special low price on two-frame Nuclei for July and August Safe arrival.

W. J. FOREHAND,
19D12t FORT DEPOSIT, ALA.
Please mention Bee Journal when writing.

frame (outside dimensions.) A frame is slipt onto this, a sheet of foundation laid inside, and on the smaller board (that *just* comes up even with the lower side of the groove in the top-bar of the frame), and the edge slid into the groove in the underside of the top-bar. A small wedge-shaped splint with a little flour or starch paste (or some other substance that will stick, and not let loose when it gets warm) put on, and prest into the groove, completes the job, except to give it time to dry before putting the supers on the hive.

I made my splints from old wood separators cut just wide enough to fill the groove in the top-bars just full. By using a sharp knife, a good ruler, or straight-edge, a good, solid cutting-table, and a reasonably straight-grained wood-separator to cut the splints from, they can be made to fit exact, and be made very fast. It helps a good deal in getting the splints to enter the groove readily, and to avoid the sharp edge cutting the foundation, to scrape the sharp edges off from the two edges next to the frame, making it somewhat wedge-shaped.

Now, I presume most of the older heads will say, "O, shucks! any one would know enough to put in foundation," and I presume some have a better way; if so, let's have it, even tho it does knock my way into "smithereens," and make me feel as if I belong in the A B C class instead of in the X Y Z class, or away up thru the 5th and 6th reader, almost alongside of Langstroth, Huber, Dzierzon, Root, etc.! F. W. HALL.

Sioux Co., Iowa, May 28.

Paste for Labeling New Tin.

Use Demar varnish reduced with alcohol so it will spread easily with a brush, apply to the can, then lay the label on and press down smooth with a damp sponge.

It can be used to mend china and glass, but takes a long time to dry.

This paste *will stick*, is easily prepared, and will not sour.

H. N. CHANDLER.

Langlade Co., Wis.

Prosperous Summer Expected.

We are having an unusual amount of rain for so early in the season, and the alfalfa is coming on finely, fruit also, and I think the bees will have a prosperous summer.

This is the location of the U. S. Marine Hospital Sanitarium for consumptive sailors; there are about 100 men at work repairing the buildings for occupancy, and they have now about 50 patients, and more coming every few days. Most of those who have been here some time are showing wonderful improvement.

ERNEST W. HALSTEAD.

Lincoln Co., N. Mex., June 2.

Some Stinging Experiences.

Prof. Cook's report of a cow being stung to death by bees (see page 147) is different from my experience. When a boy my father used to keep a few bees in old-fashioned gums, that were kept in a row alongside the yard fence. I came up one day with a yoke of young steers, and unyoked them near the bees. They were not well trained, so I

California Queens.

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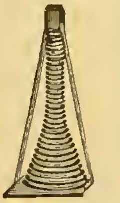

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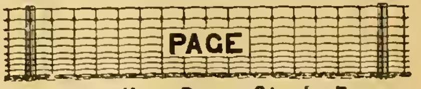

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tied their heads together to prevent them from jumping from under the yoke when the bows were taken out. They concluded to have a little fun anyway, and when I took off the yoke, they ran up near the bee-gums. The bees did not seem to like oxen, and so proceeded to persuade them to leave. One of the steers jumpt the fence. I had no veil, and was somewhat afraid of bees anyway (at that time), so I thought the "jig was up," and that father would soon have more beef on hand than he could dispose of. But the ox did not lose its mind, altho he became rather excited. He jumpt back over the fence, and together they ran to the lot about 200 yards away. I suppose they must have received some 30 or 40 stings each.

At another time (and since I have been keeping bees in the modern way), a couple of friends came up one day on horseback. They got down and turned their horses loose. They rambled around and got into the bee-yard, and the result was a very pretty race.

A friend came along one day when I was "robbing," and stopt to eat honey, and see how the extractor workt. He hitcht his mule to a tree between the apiary and the house, where I was extracting, the house being some 200 yards from the apiary.

I owned only 40 colonies, at that time, and was pretty green. I had allowed so much honey to be exposed at the house that the bees became excited, and I had a nice case of robbing. While we were in the house the bees attackt the mule. My father happened along and saw they were stinging the mule, and went to his rescue, but the bees stung him so badly that he gave it up and ran to the house for me.

Mr. Wilson (the owner of the mule), saw to him as quickly as possible, while I waited to put on a veil and gloves. When I got out Mr. Wilson

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NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate, it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

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had unhitcht him from the tree, and was trying to drive him away, but he seemed not to care whether he died or not, for he would not go.

Mr. Wilson is a large man, and shaves clean. He was fighting bees with his hat in one hand and whipping the mule with a fishing pole, and twisting his face in more different shapes than a circus clown. I told him to leave the mule to me, and I would take care of him. He seemed very willing, for he ran to the bushes about 100 yards away very quickly; I think his tracks were about 8 feet apart, where he ran across the cotton-patch.

After ruining a buggy-whip on the mule without driving him more than 30 feet, I went to his head and masht the bees as they lit on him, until I got them checkt, when Mr. Wilson returned, and he and I together managed to get the mule to the bushes.

I had got the mule out of the direct line between the house and apiary, so the bees were not increasing in numbers about him, before I tried killing them.

We scraped the stings out with our knives, and bathed the mule with cold water for an hour or two. I also drencht him with alcohol—(some my father had on hand for medicinal purposes; being a physician, he keeps it. I want you to understand I *do not* keep it.)

The mule was sick for several days, and one of his ears rotted off. Father's face was swollen all out of shape for a couple of days; he must have received a dozen or more stings in the face. The bees were so bad for an hour or two that my mother had to close all the doors and windows, and keep on the inside of the house.

Mr. Wilson will not stop anywhere near an apiary now in daytime; and your humble servant has been very careful since to prevent robbing, also to see that no stock is exposed where bees are liable to attack them.

The tree to which the mule was tied was used every day by my father to hitch his horse to, and of course I never thought of the mule being in danger.

I sincerely hope that I will never have another such experience.

J. M. Cutts.
Montgomery Co., Ala.

BEEDOM BOILED DOWN

A Point in Handling Honey.—As to placing the shipper's name and address on a case, I repeat the argument that his name should be on the package, so that if any complaint is made to us we will know whose honey it was. The shipper's *address* should *not* be on the package; for it is no one's business where the honey comes from; but is a subject only for the jobber who is experienced as to the product. If any shipper wants to advertise his honey, it is his privilege to do so; but when he sells to a wholesaler, he must be satisfied to allow the wholesaler to do his own advertising. Then, again, some customers object to honey from certain localities, and we do not intend

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Directions.—The Tool is fastened securely in the Holder by a set-screw and can be ground to any desired bevel by inserting the arm of the Holder into a higher or lower notch of the standard. While turning the crank with the right hand, the left rests on an steadies the Holder; the Tool is moved to the right or left across the stone, or examined while grinding, as readily and in the same way as if held in the hands.

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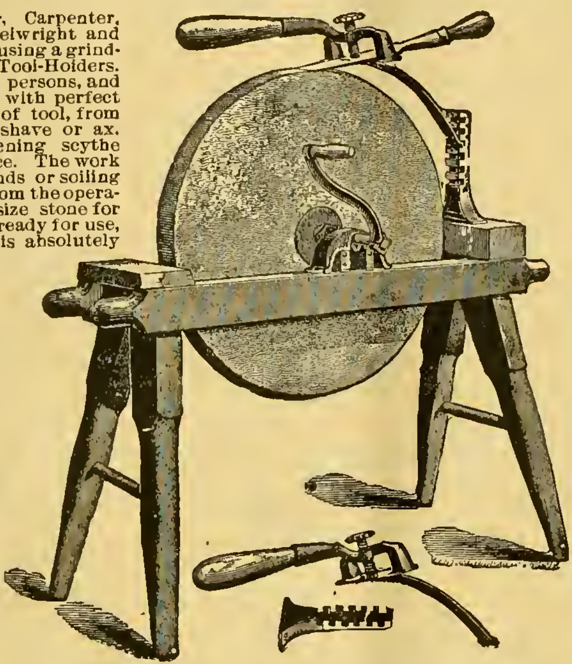

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to be hampered with the address on the package; and will take care of that part of the business ourselves.—M. H. Mandelbaum (a city honey salesman), in the Bee-Keepers' Review.

Cement-Coating Nails.—The outfit required for preparing the nails is an old frying or stew pan and a little rosin. Place the pan containing the nails on the fire; stir them to get evenly heated. Try a few at first. Have a little powdered rosin, say one tablespoonful to a pound of nails. When the nails begin to turn blue remove from the fire and immediately sift the rosin over the nails, stirring till all are smeared with the molten rosin. Now turn them out on a bench or board and spread out thin. You now have the genuine (so-called) cement-coated nails. One pound of rosin is sufficient to coat 100 pounds of nails. Will some brother bee-keeper tell us how he succeeds with this method?—H. M. Jameson, in the American Bee-Keeper.

Black Brood in New York.—It seems that this disease is breaking out again in the Empire State, for I hear of its having started up in several localities. The following letter will show that the Commissioner of Agriculture, in whose hands rests the responsibility and the the power, largely, to eradicate this disease, is very much interested, and is doing and will do all he can to stem the tide of its ravages:

> Mr. Root:—I will explain here that last season Mr. West was appointed bee-inspector until a civil-service examination was held, which occurred July 29. He past at 95.2; I at 94.2, and W. D. Wright at 93.6, while M. Stevens stood 85. (I think these figures are correct.) Mr. Stevens, being a veteran, took precedence over all of us, and Mr. West was also appointed.
>
> These inspectors did some very effective work; but the diseased territory was too large to be thoroly inspected without more help, so W. D. Wright and I were appointed by the New York State Agricultural Commissioner, and ordered to report at the commissioner's office at Albany for work May 1. We accordingly met Mr. Stevens and Mr. West at that time, and spent two days in consultation with the State officials (who, by the way, were very kind and courteous to us), as to how the State should be divided, and ways and methods, etc.
>
> I think it would be well to announce the territory assigned to each inspector, and I enclose a list of alphabetically arranged counties in each inspector's division. All communications in regard to diseased bees should be sent to the inspector in whose division the bees are located.
>
> May 4, 1900. Chas. Stewart.

In this connection perhaps it may be well to state that extracted honey from colonies affected with black brood ought to be boiled at least one hour to be safe. Hives should be scalded or burned out, and bee-keepers in the infected regions would do well not to exchange combs. Tools, smokers, bee-gloves, bee-veils, bee-hats, and even the clothing that is used around diseased colonies, should be disinfected before working on healthy ones. It should be remembered that both foul brood and black brood are very contagious, and the inspectors of the State will do well to urge every precaution.

The most serious difficulty to be encountered will be ignorance as to the nature of this contagious disease; for I learned while in New York that a few bee-keepers who had black brood in the apiary, and *knew* they had it, took no precaution about exchanging combs, did not wash the hands, much less disinfect smokers or clothing, because they did not know that it was necessary.

The honey from diseased colonies will do no harm to human beings; but I would suggest that the production of comb honey in disease-infected localities be discontinued, and that extracted only be produced. It may be a hardship to observe all these precautions, now, but it will mean many dollars in the future, even if it is a sacrifice now.

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Wyoming,
Yates.

—Gleanings in Bee-Culture.

Texas.—The Central Texas Bee-Keepers' Association convenes in seventh annual convention, at Hutto, Tex., July 12 and 13, 1900. All are cordially invited to attend. Excursion rates, and no hotel bills to pay.

Hunter, Tex. LOUIS SCHOLL, Sec.

The Farm as a Factory.—Our modern agriculture demands that the farm shall be something more than a mere producer of raw material to be workt into a finisht product by some one else. The times are so rapidly changing in this particular that the best farms all over the country now conform more nearly to this changed order of things. Where it was the custom a few years ago to raise cattle, hogs and sheep, merely that they might be sold as "stockers" to some man who completed the process by fattening and marketing them, they are now fattened and finisht at home and by the man who raised them. Farm cheese and farm dairy butter are now taking high rank and serve as other examples of farm manufacture. Farm-cured hams and farm-made sausages may also be referred to. Of course, all these changes and tendencies—and we have only pointed out a few of them—call for better and more business-like methods on the farm. They call, above all else, for a strong, durable and highly efficient power. If the power is portable it possesses many advantages over the stationary power. In many sections it is found advantageous to have a community power—one which is owned conjointly by several farmers and which may travel about from farm to farm as needed, supplying power for threshing, cutting ensilage and other feed, grinding grain, sawing wood, etc. Among those powers specially well adapted to this use is the Rumely Traction Engine. The Rumely engines differ from others of their class, in their easy steaming qualities, and they possess unusual actual horse-power. In addition they are very simple and easy to handle. Their traction qualities are excellent and make them fast travelers on the road. It will be well for any farmer, or association of farmers, who think of buying an engine, to look into the merits of the Rumely before buying. Address, The Rumely Company, La Porte, Ind., for handsome free catalog, and mention the American Bee Journal.

BEE-BOOKS

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Bees and Honey, or Management of an Apiary for Pleasure and Profit, by Thomas G. Newman.—It is nicely illustrated, contains 160 pages, beautifully printed in the highest style of the art, and bound in cloth, gold-lettered. Price, in cloth, 75 cents; in paper, 50 cents.

Langstroth on the Honey-Bee, revised by Dadant.—This classic in bee-culture has been entirely re-written, and is fully illustrated. It treats of everything relating to bees and bee-keeping. No apiarian library is complete without this standard work by Rev. L. L. Langstroth—the Father of American Bee-Culture. It has 520 pages, bound in cloth. Price, $1.25.

Bee-Keepers' Guide, or Manual of the Apiary, by Prof. A. J. Cook, of the Michigan Agricultural College.—This book is not only instructive and helpful as a guide in bee-keeping, but is interesting and thoroly practical and scientific. It contains a full delineation of the anatomy and physiology of bees. 460 pages, bound in cloth and fully illustrated. Price, $1.25.

Scientific Queen-Rearing, as Practically Applied, by G. M. Doolittle.—A method by which the very best of queen-bees are reared in perfect accord with Nature's way. Bound in cloth and illustrated. Price, $1.00.

A B C of Bee-Culture, by A. I. Root.—A cyclopædia of 400 pages, describing everything pertaining to the care of the honey-bees. Contains 300 engravings. It was written especially for beginners. Bound in cloth. Price, $1.20.

Advanced Bee-Culture, Its Methods and Management, by W. Z. Hutchinson.—The author of this work is a practical and entertaining writer. You should read his book; 90 pages, bound in paper, and illustrated. Price, 50 cents.

Rational Bee-Keeping, by Dr. John Dzierzon.—This is a translation of his latest German book on bee-culture. It has 350 pages, bound in paper covers, $1.00.

Bienen-Kultur, by Thos. G Newman.—This is a German translation of the principal portion of the book called "Bees and Honey." 100-page pamphlet. Price, 25 cents.

Bienenzucht und Honiggewinnung, nach der neuesten methode (German) by J. F. Eggers.—This book gives the latest and most approved methods of bee-keeping in an easy, comprehensive style, with illustrations to suit the subject. 50 pages, board cover. Price, 50 cents.

Bee-Keeping for Beginners, by Dr. J. P. H. Brown, of Georgia.—A practical and condenst treatise on the honey-bee, giving the best modes of management in order to secure the most profit. 110 pages, bound in paper. Price, 50 cts.

Bee-Keeping for Profit, by Dr. G. L. Tinker.—Revised and enlarged. It details the author's "new system, or how to get the largest yields of comb or extracted honey." 80 pages, illustrated. Price, 25 cents.

Apiary Register, by Thomas G. Newman.—Devotes two pages to a colony. Leather binding. Price, for 50 colonies, $1.00; for 100 colonies, $1.25.

Dr. Howard's Book on Foul Brood.—Gives the McEvoy Treatment and reviews the experiments of others. Price, 25 cents.

Winter Problem in Bee-Keeping, by G. R. Pierce.—Result of 25 years' experience. 30 cts.

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Foul Brood, by A. R. Kohnke.—Origin, Development and Cure. Price, 10 cents.

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12A26t **J. D. GIVENS, LISBON, TEX.**

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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, June 8.—Not any new comb honey has appeared on the market, but it would sell at 15 cents, as there is a demand for it that can't be supplied for some time hence.

Extracted from the Southern States is coming forward quite freely, but is not active and prices are lower. White sells at 6½@7c: amber, 6@6½; dark grades, 5@5½. Beeswax, 27c for prime.

R. A. BURNETT & Co.

KANSAS CITY, June 11.—We quote: No. 1 white comb, 14@15c; No. 1 amber, 13@14c; No. 2 white and amber, 13@13½c. Extracted, white, 7½@8c; amber, 7c. Beeswax, 22@25c

Very little comb honey on the market but what is candied, which is almost unsalable; stock of extracted, light. No beeswax in the market.

C. C. CLEMONS & Co.

DETROIT, May 24.—Fancy white comb, 15@16c; No. 1, white, 14@15c; amber and dark, 10@12c. Extracted, white, 7c; amber and dark, 5@6c. Beeswax, 25@26c.

Supply and demand for honey both limited.

M. H. HUNT & SON.

NEW YORK, May 21.—Our market is practically bare of comb honey, and there is a good demand for white at from 13@15c per pound, according to quality and style of package. The market on extracted is rather quiet, and inactive. New crop is slow in coming in, and prices have not yet been establisht. Beeswax holds firm at 27@28c.

HILDRETH & SEGELKEN.

SAN FRANCISCO, June 6.—White comb, 11½@12½c; amber, 8@10c. Extracted, white, 6½@7c. light amber, 6@6½c; amber, 5@5½c; Beeswax, 26@27c.

There is not much honey on market, either old or new. Small quantities of new comb and extracted are going to local trade at comparatively stiff values. In some instances, especially for comb, an advance on best figures warranted as a quotation are being realized. To secure export orders, however, of anything like wholesale proportions, prices above noted would have to be materially shaded.

BEES QUEENS Smokers, Sections, Comb Foundation And all Apiarian Supplies cheap. Send for FREE Catalogue. E. T. FLANAGAN, Belleville, Ill.

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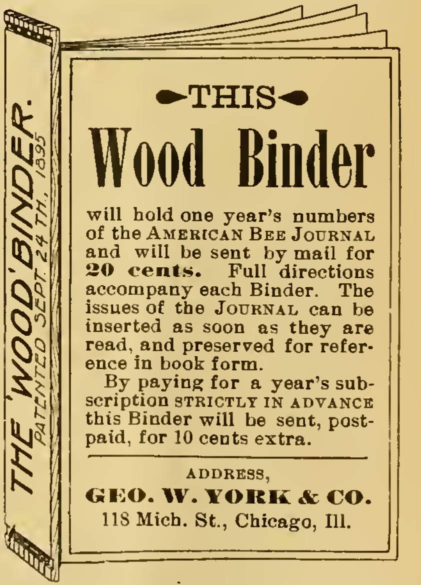
21Atf Address, E. W. HAAG, Canton, Ohio.



•THIS•

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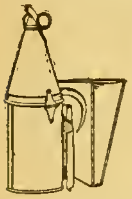

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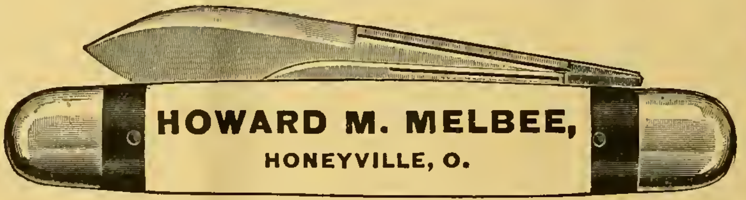
Your Name and Address on one side—Three Bees on the other side.



[THIS CUT IS THE FULL SIZE OF THE KNIFE.]

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and in case of death, your relatives will at once be notified of the accident.

How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

How to Get this Valuable Knife.—We send it postpaid for $1 10, or give it as a Premium to the one sending us THREE NEW SUBSCRIBERS to the Bee Journal (with $3.00.) We will club the Novelty Knife and the Bee Journal for one year, both for $1.90.

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AMERICAN BEE JOURNAL

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DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS.

40th YEAR. CHICAGO, ILL., JUNE 28, 1900. No. 26.

W. H. PRIDGEN.

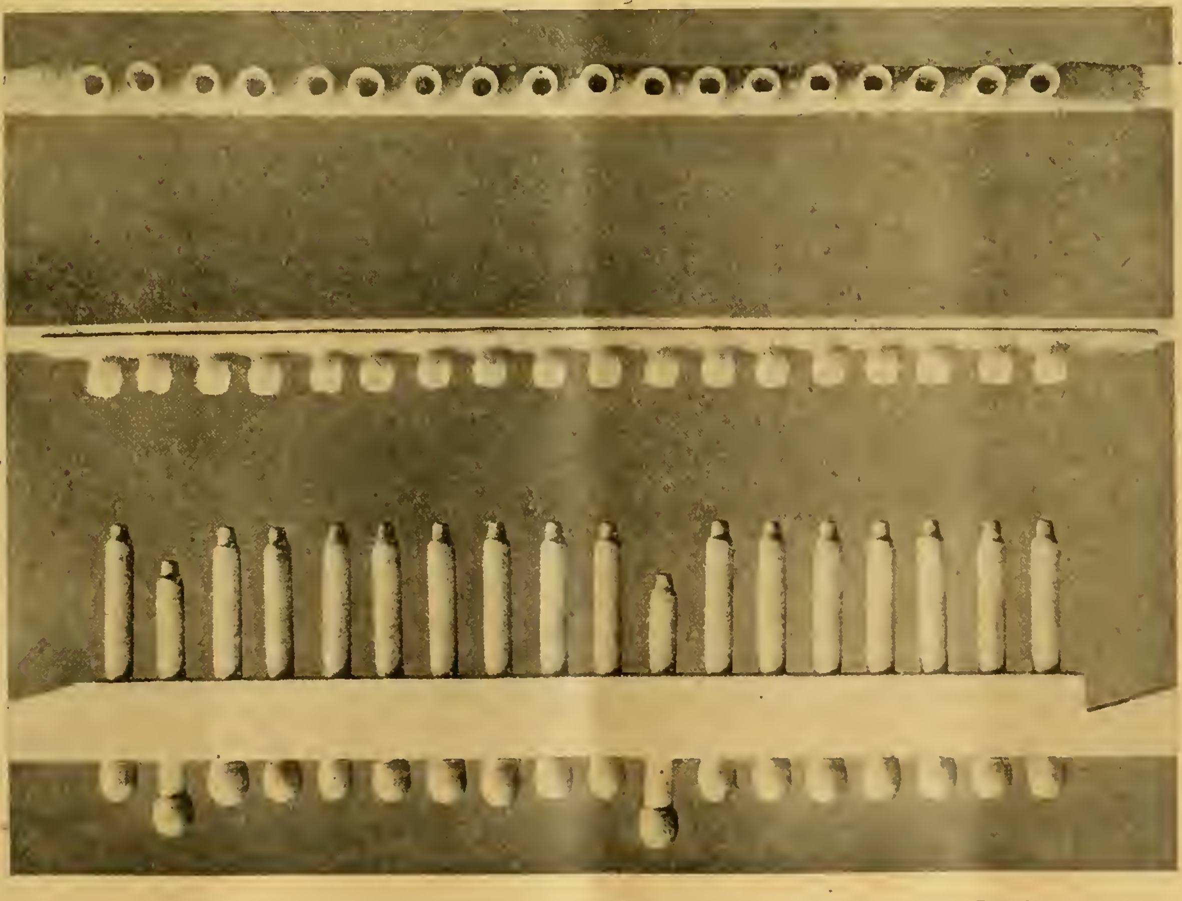
[This Prize Article and Illustrations from the Bee-Keepers' Review.]

Commercial Queen-Rearing in all of Its Details.

BY W. H. PRIDGEN.

VERY few queen-breeders now allow the bees to construct their own queen-cells. The cells are dipt and fastened in some way to a stick and then supplied with just-hatcht larvæ. If only a few cell-cups are needed they may be dipt by using a single dipping-stick, dipping a single cell at a time; but this is too slow work where there are many cells to be dipt.

The dipping-stick should be not larger than 5-16 of an inch in diameter. The tapering part should be 5-16 of an inch long; reduced rapidly the first 1/8 of an inch, and then gradually reduced to the end. It should slip into a worker-



A Whole Battery of Dipping-Sticks used in Modern Queen-Rearing—and the Results.

cell one-eighth of an inch before filling the mouth of the cell, and form a sink in the wax-cup that will bear sufficient pressure to make the cocoon fit snugly without touching the bottom. The accompanying illustration shows my first plan for dipping a large number of cups at one time, and attaching them to slats by means of melted wax; but the time has arrived when cell-cups will be on the market, and we need a bar to which they can be attacht without melted wax. One, a half-inch square, to fit between the end-bars of a brood-frame, with 18 5-16-of-an-inch holes bored nearly thru, and five-eighths of an inch from center to center, furnishes just such a bar.

Only one round nail should be used at each end when fastening it in the frame, so that the holes can be turned out for the cups to be inserted and the larvæ transferred, with the frame lying on its side. The bars should be immerst in hot wax before put in use, and if the larvæ only are transferred the cups should first be slightly prest into the holes with a peg that fits the bottom; but if the cocoons be transferred with the larvæ, it is only necessary to set them over the holes, and the slight pressure necessary to make the transfer will also tighten the cups.

The bar should be put across the center of the frame, and the space above it, except a bee-space immediately above it, be filled with a thin board nailed in. There will be no necessity of ever taking the bar out of the frame; as, if provided with wire loops, the nursery (see next page) can be slipt over the cells in less time than it takes to count them, and the queens removed as they emerge; or the cells can be detacht and used in the usual way, by simply running a knife between them down to the bar, and prying them off.

To dip cell-cups that are smooth inside, the first dip must be full-depth, and the others varied according to the temperature of the room and wax. Usually the second dip should only be half way up, and then the third one will finish it,unless the wax is too hot, and should be nearly full-depth.

The use of the new cell-bar will simplify the dipping of cups wonderfully, as any number of the forming-sticks can be made fast in a board, in rows of suitable distance to admit of conveniently removing the cups, or the sticks can be made fast in the bars, as teeth in a rake, instead of loose, as shown on the first page, and a number of these sets can be fitted into a frame and all dipt at once, by having blocks of varying thicknesses, or some other arrangement, to be adjusted while the wax is cooling, after making a dip, for the frame or board to come down on, to change the depths of the different dips. It is not necesary to make the base of the cups heavy, as is the case when they are to be stuck on slats with wax, and the sticks need not be varied from a perpendicular position, but simply give a little jerk to dislodge the drops as soon as they form on the points, to prevent having long necks to the cups.

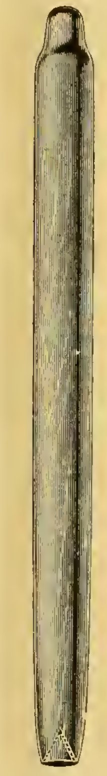
The latest machine dips them by *turning a crank*, and the pins have two motions. They go around like the spokes in a wheel, and they whirl, or slowly revolve, as they go around, which keeps the wax spread evenly around until it sets, and prevents the long points that are so bothersome when dipt by hand. The wax must be the right temperature, and the dipping done by a steady, slow movement. If moved too fast the wax will be forced up too high on the pins, and make the cups with a long side and a short one. Altho they are turning while in the wax, they will not turn entirely around while at the deepest point.

The pins are arranged on the circumference of a wheel, but not put on entirely around the wheel, and after all are dipt, and the point reacht where no pins touch the wax, all is suddenly raised sufficiently for them to miss the wax, and another revolution given without stopping the wheel, followed by a pause for cups to cool, and then repeated until the cups are sufficiently heavy. Then the wheel is carried over to the water-trough and the cups removed. If the weather is cool, the water should be kept at a temperature of about 100 degrees, Fahr., to make the cups slip off easily.

The machine automatically varies the depth of dip by means of a plate with a thick side and thin one, that is, moved around one notch every time the point is reacht where no pegs touch the wax. Over this is arranged a piece of hoop-iron that moves up and down, on which the thumb-screws rest that are used for adjusting the machine to the quantity of wax, and for lowering it as the wax is used up.

As queen-breeders generally will not consider such a machine practical for making cups for their own use—as more simple arrangements can be used for securing satisfactory cups in a wholesale way—I will not go into all of the particulars, but will add for the benefit of those who want to make them for sale, that the pins should have sharp shoulders the right distance from the points to give the cups the desired depth, which will trim each cup to a uniform depth, and remove the feather edge so liable to be broken off in handling. It should be a square cut in, and the cup made on the head or larger portion. The cells made on pointed sticks are just right for use when the transfer is made by using the cocoon, and there is nothing to do when they are placed over the holes but make the transfer, and they will be fastened in the bar at the same time. If larvæ only are to be transferred, a peg the same size and shape of the transfer-stick, except the end should be round and smooth instead of concave, can be used for pressing the cups in the bar, which will stretch them and make them the right shape inside. No attempt should ever be made to fasten them in unless they are soft enough to mash up without cracking.

Inasmuch as the bees more lavishly supply larval food to royal larvæ than to worker for the first three days, and all agree that the resulting queens are no worse for it, while the experience of many verifies the fact that they are better, I prefer a plan of transferring whereby newly-hatcht larvæ can be used. This is done by supplying the breeder with combs so old that the bottoms of the cells have lost their hexagonal shape, and are thick and dark. A piece of such comb may be shaved down with a keen-edged, slightly heated knife, so as to cut it smooth, within one-eighth of an inch of the bottom of the cells; and by bending it back and forth, the cocoons will drop from it, unless it has been sufficiently exposed to moisture to mold.



Transfer-Stick.

It will be found that all do not work alike; some seem to be glued in, while others almost fall out, with all degrees between, but usually they can be transferred by taking them up on the transfer-stick, herewith shown, which is sufficiently rounding at the points to slip into them without bruising them; altho they may be stretcht a little thereby, which should be the case. The end has a funnel-shaped cavity in it that fits over an egg, or small larva, and takes the cocoon up, fitting like a gun-cap on the tube, which, by a slight pressure and little twist, is transferred to the cup.

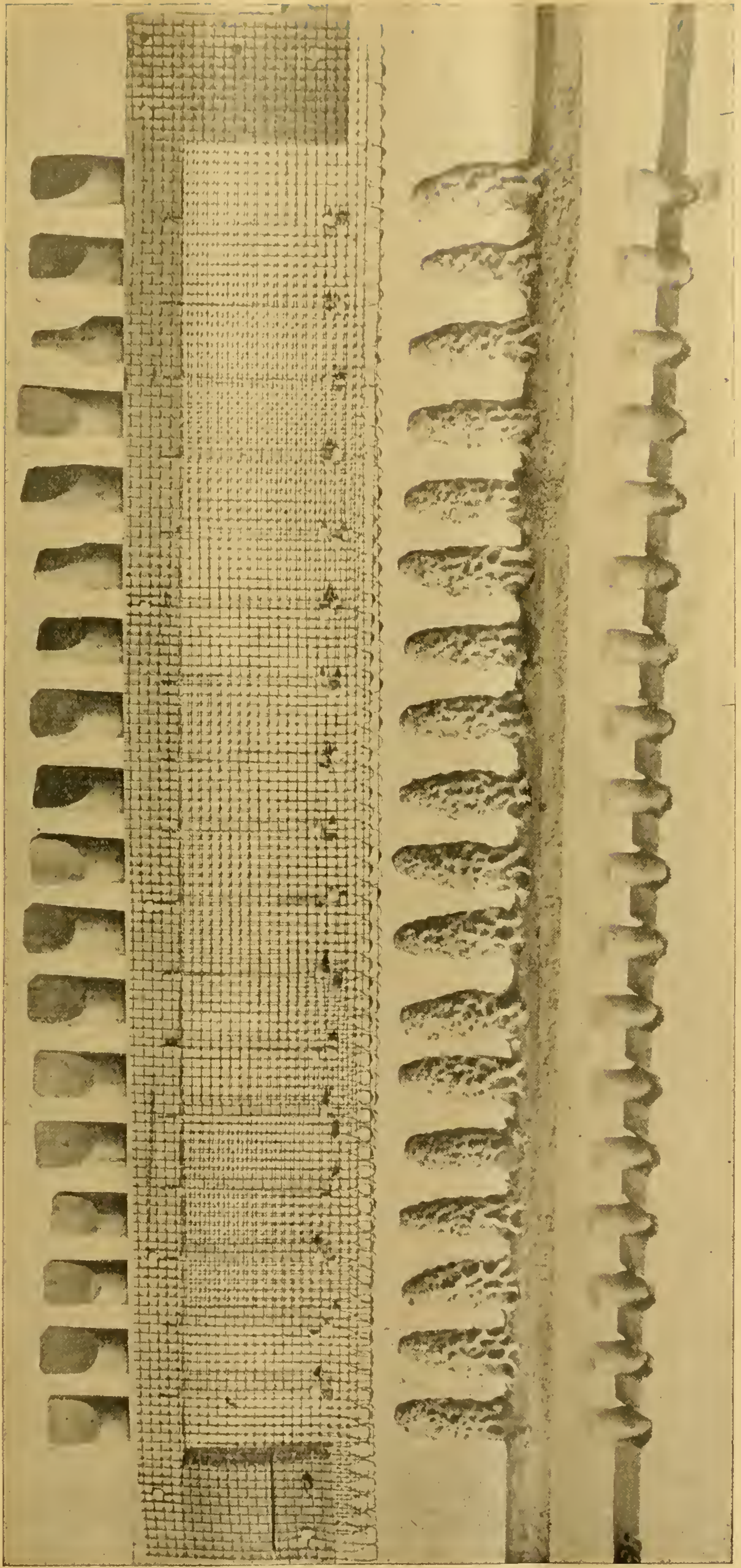
It is more satisfactory when the comb is old enough so that the outside of the cocoon is black and glossy, and any adhering thin tissues that are liable to come above the edge of it in the cup can be rubbed from it while it is on the stick. Whenever only a transparent tissue is taken up it is useless to insert it into the cup, as it has not the stability to preserve its form while the transfer is being made. Whenever they loosen up by simply bending the comb back and forth there is nothing to do but insert the transfer-stick and take them up; but, with other pieces of comb, it may be necessary to slightly work the stick back and forth as tho it is to be shoved or pulled out sidewise before it will adhere. After one has been stretcht too much to fit the stick it cannot be taken up. Slightly waxing the end of the stick may help in obstinate cases.

I prefer using larvæ too small to be seen, that are surrounded by clear or slightly-milky food; but those larger than the head of a brass pin can be transferred.

When only a small wet spot can be seen in the bottom of the cell the larva will be accepted all right by queenless bees; and one can rely upon being on the right side as to age, as well as certain of the fact that it has been amply fed up to the time of the transfer; especially so if the comb be given to bees anxious for larvæ to feed a few hours before.

The same comb will usually supply larvæ for 3 or 4 days if kept in the breeder's hive as long; and by returning the combs to the breeder after the brood is sealed, there will nearly always be one from which the bees are hatching solidly, which will be filled with eggs just as fast as the bees in the breeder's hive feel the need of brood to feed. In this way only one set of combs need be cut.

Some report better success when transferring larvæ only if no royal jelly be first put into the cups, as the bees begin to feed them as soon as they are transferred. It certainly should be floating in the milky food before it is transferred; and at times when it is sticking to the bottoms of



Cell-Cups, Completed Cells and Queen-Nursery, as used by Mr. W. H. Pridgen, of North Carolina.

the cells with only enough around it to keep it living, good queens need not be expected if such be used. Then it is that the comb from which it is to be used should be given to bees without brood at least 24 hours in advance.

The majority will be more successful in having cups accepted, and attain better results, if they first be given to bees deprived of both queen and all unsealed brood from 6 to 12 hours previously.

Nursing begins the instant they are given, if the bees be long enough queenless to receive them, which is of vital importance, as the larvæ once neglected are slow in development and result in dwarft queens.

In preparing bees to start cells, it hastens matters wonderfully if they be shaken from the combs, whether it be from the combs of one hive on to those of another, or right into the same hive.

When they are thus disturbed they begin to search for the queen immediately, realizing, I suppose, that she is liable to an accident under such treatment, and they act very much like a swarm when the queen is mist.

If shaken from the combs of a normal colony on to combs minus brood, from 3 to 6 hours is ample time, and sometimes the cups have to be given sooner to quiet them.

At the time when the greatest distress is shown is when they will accept the greatest number, and the chances for the best results lessen as they reconcile themselves to their condition.

If one is making a business of queen-rearing he should keep a colony at work as cell-starters. Fill a body with combs of brood and place it over the colony selected, with an excluder between. Twelve days later place this body on a bottom-board, minus the most of the board, with wire-cloth tackt on as a ventilator; stop the entrance so that no bees can escape; shake the bees from the combs and examine them for cells, removing any that are found.

Substitute a comb ¼ full of water, for one in the hive, or pour a little water into one, as they will consume quite a bit when thus shut up, and remove as many more as there are batches of cells wanted, to make places between other combs to receive them.

The bees will cluster in the spaces thus formed, and the cups can be inserted before many bees escape, which they are anxious to do.

Regardless of the kind of hive used, there should be a cloth over the frames before putting on the top, so that it can be gently rolled back and the bees smoked until the spaces are reacht, to avoid their escape.

The greatest number of cups I have ever given was 36, and have had as many accepted.

Usually I prepare the bees about 9 o'clock a.m., give them the cups at 1 to 3 o'clock p.m., and wait until the next morning to remove them.

Mr. W. S. Pender, of Australia, allows queenless bees to work on one batch 2 or 3 hours, and then gives another, and so on, but, as I know they will accept as many as two batches all right, late in the evening they and adhering bees can be given to cell-builders, and the balance set back over the excluder, ready for the same operation the next day, or whenever desired.

At this date (April 4) I am unable to experiment and ascertain how short a time the allowing of the cups with the cell-starters will suffice, but, of course, Mr. Pender knows.

When this stage is reacht another body should be filled with combs of brood and placed over the excluder, and the one just used for the cell-starters put on it when it is returned. Then, when the top one is set off to prepare the bees for accepting cups, some can be shaken from 2 or 3 combs of the one immediately below it, which will be sufficient to start the excitement.

In 10 or 12 days more, all of the bees will have emerged from the top set of combs, and all the brood in the second set given will have been sealed, so that the first set can be disposed of, another set with brood prepared, and the second set come into use in having cups accepted. At these intervals the giving of brood and removing of combs can be kept up during the season, and the bees workt as described daily, or nearly so. Every time a new set is given, those previously given should be examined for cells, and the cells removed.

The brood given keeps up a strong force, altho some bees are removed each day with the cups to the cell-builders. When no honey is being stored the colony should be daily fed a sufficient quantity of syrup to fill the combs as the brood hatches out.

The main point to keep in view is, that whether bees are confined, or made broodless and queenless on their stand with liberty to fly, they will accept cups in a few hours after the queen and all unsealed brood are taken from them.

In preparing a hive to have cells built above an excluder, with a laying queen below, the excluder should be nailed to the top body, and have a bee-space between that and the frames above and below. If the hive is wide enough to take ten frames and a division-board, a tight-fitting-board can be tackt in the center to the excluder, and form two apartments, holding five combs each, thereby doubling the capacity of the colony for cell-building, without ever taxing it to feed more than the usual number at any one time by giving a batch of accepted cups in the center of one apartment between two combs of either sealed or unsealed brood, and as soon as they are sealed, say five days later, place another in the other. This gets it into working order, and one batch can be removed and another given every five days.

Whenever cells are built by queenless bees, if nuclei are to be formed, a sufficient number of combs of brood and the adhering bees should be placed under them as soon as they are sealed, to furnish at least one comb for each cell. Just before the time of hatching the cells should have a nursery slipt over them, and then the nuclei can be formed and queens given as fast as they hatch; or, say twice a day, as all will not hatch at once. No doubt it is better to form the nuclei late in the evening, so that the bees will become accustomed to their changed conditions before they can fly.

Another lot of combs, bees and cells can at once be placed on the same stand to catch the returning bees, and workt in a like manner, to be again and again repeated if necessary; but, of course, in the latter case care should be exercised in selecting all sealed and hatching brood, as the combs will be used within two days for forming nuclei.

When queenless bees are not used as cell-builders a queen can be removed from a colony and other bodies piled on provided in a like manner a few days before nuclei are to be formed, and by allowing the queens to hatch out in a nursery hereinbefore stated, all is ready to form nuclei, without having unsealed brood in the combs to starve as is often the case when drawn from normal colonies; besides, bees thus treated will remain in the nuclei better than those taken from a colony with a queen, even if cells be given, instead of queens.

After getting the bees in shape to be ready for forming nuclei, they should be fed all the syrup they will take every evening, until the divisions are made, except during a flow.

☞ After ascertaining how to have virgins or cells accepted, that is, to bring about the conditions necessary under varying circumstances, it is not only a waste of time, but often proves to be a loss to open a nucleus from the time a virgin is two days old until the time for her to be laying. Virgins are hard to find, and the bees often act as tho they were queenless while the virgin queens may be present; and, worst of all, often kill them if no honey is being stored, if disturbed.

If virgins are given and not accepted they can often be found near the entrance next morning. A stroll in the evening among those containing queens of mating age will often save time, as there will be considerable distress manifested where a queen has taken her wedding-tour and failed to return, which is sometimes kept up until the next morning, but usually by that time all is quiet. Such cases should be noted, and cells or queens given the *next day*.

The tin divisions in the nursery are 1¼x⅝ inches, are slightly let into saw-kerfs at the bottom, and are ⅝ of an inch apart, thus forming apartments about 1½ inches deep and ⅝ square. The pegs have holes in them for holding the candy, and should be dipt in melted wax before being used. If one has them, cartridge-shells can be used instead.

To remove the queens one should be provided with a number of cages, made by rolling up small pieces of wire-cloth into tubes three or four inches long, with one end prest together or closed, while corks or bits of comb make nice stoppers for the other. If the queens are too young to fly, a number of pegs can be withdrawn all along, and the queens allowed to crawl into the cages as they come out, without ever allowing two to clinch, as it almost invariably means death to one. When this is being done the nursery should be lying on its side, and the queens can be distributed by simply allowing them to crawl from the cages down between the combs, or in at the entrance, and give a puff or two of smoke behind them.

If they are to be kept in a nursery very long for any purpose, they should be transferred to one minus cells, as the space is small, and they are liable to get wedged up between the nursery and cells, and perish in attempting to find a way of escape.

In removing those old enough to fly, only one peg should be removed at a time, and the cage should be placed right over the hole. The operation can be hastened by inverting the nursery.

In slipping the nursery over the cells (which is held in place by drawing the wire loops already on the bars over the ends), the tin will cut its way unless an unusual amount of wax has been used in joining them together, as is sometimes the case when the bees are anxious to build comb; and when that is the case they should be separated with a hot, thin knife.

If the cells instead of queens are to be given to nuclei, the nearer the time of hatching the better, and, as they seldom hatch on the orthodox tenth day, if larvæ of the best age are used, it is quite a convenience to attach the nursery and feel easy until they do begin to hatch.

If the division be made when the bees are flying freely all can be shaken from the comb or combs of unsealed brood, and the returning bees will be sufficient to protect it at once.

As soon as virgin queens reach the combs they begin a search for honey, and bees seldom attack a queen while in the act of securing nourishment. No attempt should be made to introduce a virgin by simply releasing her in the hive after she has become very active, whether it be those held in the cells by the bees, as in cases of second swarms, or that have been in a nursery, unless it be to the bees surrounding them.

During a honey-flow the feeble, downy-looking misses can be given the same day the laying queen is removed, with a considerable degree of safety. I have thought that it is safer to give them at once, than any time afterwards, before the bees fully realize and reconcile themselves to their queenless condition. If given to colonies with feeble, old queens they will often be accepted and commence laying with the old queen in the hive, as is the case with supersedures.

When I have a surplus I often release them in colonies having old queens, and allow the bees to take their choice between the old and the young.

Virgins at the age of two or three days or older can be shipt from the nursery, if escorts from the same hive be used.

Another consideration in the use of so simple and convenient a nursery, is the saving of time with nuclei. A virgin can be given as soon or sooner than a cell, regardless of the conditions, and the time between the giving and hatching of the cells is saved; besides, fine looking cells often fail to hatch, and it is not uncommon for others equally fine to furnish queens deformed, and that should be discarded instead of consuming valuable time in a nucleus.

While I prefer allowing the bees to have access to the cells until within a day or two of hatching, so as to add to or take wax from them as they see fit, still, if the proper temperature be maintained, and, as they can be inserted without rough handling, or changing their positions, it can be done any time after all are well sealed; and thereby reduce the number of days of queenlessness when built by queenless bees, or allow the giving of a fresh batch oftener to those over an excluder.

In multiplying nuclei the reasons for leaving the queen and unsealed brood on the old stand is that the field-force and enough comparatively young bees return to it to feed the larvæ and keep the queen laying, leaving the others in a better condition to receive a young queen, which will have a field-force by the time she begins to lay, and bees hold more tenaciously to the hive they have for some time occupied, and will sulk when the field-bees quit coming to it, instead of deserting the brood as they often do when given a new hive and location without their queen.

If the queen be carried to the new location she will be comparatively idle until the bees begin field-work, whereas, at the old stand she is kept busy. Warren Co., N. C.

Robber-Bees in the Apiary—What About Them?

BY C. DAVENPORT.

IN the long ago, when I was young in years, and in bee-keeping also, I spent considerable time in anxiously watching hives when young bees were rushing in and out during their exercise or play-spell, wondering if it was not a case of robbing. The subject of robbing was in those days a sort of nightmare affair with me, and I was always dreading and expecting a desperate case of it to commence, and when finally two or three weak, and what I now know to have been queenless colonies, were cleaned out by robbers, I thought I had at last discovered the cause that might prevent me acquiring great wealth with bees, and that it must be this same cause which had prevented old, experienced bee-keepers from becoming rich, for, in those palmy days of youth, it seemed to me that, barring some great unforeseen calamities of this kind, it would be an easy matter to make a great amount of money with bees, besides fully enjoying all those things which we would not sell for money if we could. But if whole colonies were to be wiped out by robbers in such a short time that I hardly knew anything about it until the whole affair was over, it changed the appearance of the prospects.

Now, I do not suppose there are any at present who hold such exaggerated views in regard to our pursuit, or who dread robbing as I did in those days, but possibly some who have not been long engaged in our fascinating, if not wealth-acquiring, pursuit may be interested in what I shall say on the subject of robbing, for I remember how eagerly I then read everything I could find regarding it. This was considerable, but it seemed to me the writers treated the matter in an awed, scared way, giving grave warnings not to do anything to incite it, vaguely hinting at the great danger a bad case entailed. Brief accounts of how bands of frenzied robber-bees had attackt and killed almost all kinds of domestic animals, and in one or two cases they had sacrificed human life itself to their blind, unreasoning rage; and what dismayed me the most, was what was said about the colonies in large yards robbing and fighting until the greater part were destroyed. The subject was not an assuring one as then treated, most particular caution being given not to throw a drop of honey or anything sweet where the bees would have access to it during a time of scarcity, or when no honey was coming in.

Two years ago last fall, at a time when not a drop of honey was to be had in the fields, and as the general expression would be, "bees were just crazy to rob," while shoveling honey out of the cellar one day, I smiled grimly as I thought of this warning, for there were nearly 200 colonies within a few rods. "Shoveling honey out of the cellar" causes a gasp of amazement to a young lady leaning over my shoulder, then follows such a volley of questions that I retreat across the way to my bachelor den, where I am safe from interruptions of this kind. But perhaps I should explain that this honey was stored in a room over the cellar; it was in a large alcohol barrel, about 500 pounds of fine mixt clover and basswood. The barrel got to leaking, and before I knew it the honey was all in the cellar which had a dirt floor. I shoveled out three or four wagon loads of sand and honey mixt, which the bees industriously workt over, and no trouble with robbing occurred; in fact, if I have any broken comb, sticky frames, or anything else that I want cleaned up, bees are allowed to do the work whether honey is coming in or not, and with me full colonies worth saving protect themselves from all robbers that ever mass together and attack them, and with no precaution taken except in some cases to contract the entrances; that is, after they have had their first cleansing flight in the spring. The only actual trouble and loss I have had on account of robbing has occurred when the hives were first set out in the spring, when the number of colonies wintered in cellars is so large they can not be, or if for any other reason they are not, all put out the same day, there is danger under some conditions, of those set out first robbing the ones put out later.

Bees usually will not make much effort to defend their hive from attack until after they have had their first flight in the spring, and by the time this is over the robbers may be at work in some hives in such force that there is apparently but very little effort made afterwards to repel them.

An old idea, and one still largely believed is, that after bees have concentrated in large numbers to secure any sweet that may have been exposed, or when a queenless colony has been overcome and cleaned out, the whole mass then, if nothing better offers, throw themselves upon some one colony, which even if a strong one may not be able to repel them. This is entirely erroneous, and it is well that it is, for if they did make a determined attack *en masse*, half or more of the colonies in a yard might be destroyed in a short time, but the way they really do, after whatever they have been at work on is about gone, is to scatter or divide up and look for more. Single bees, and in a few cases I have seen about a dozen, attempt at nearly the same time to enter some hive with an unusually large entrance, or one which did not seem to be as well guarded as others; but if they get in at all they are soon dragged out again. Meanwhile, the whole yard may appear to be getting in an uproar, great masses of bees may cluster on the top and around the sides of hives that are tiered up on some colonies, a great number of bees may be flying in and out of the hives which seem so strongly attackt, and many a novice might think the matter was beyond his control, and imagine ruin staring him in the face.

I have seen even old, experienced bee-keepers get excited, and spray and throw water on these hives on which robbers were clustered in a frenzied attack, but if a close observation is made it will be seen that these apparently frenzied bees take good care to keep out of the entrance. If one more venturesome than the rest does get in it is roughly handled. The bees flying in and out so lively are bees that belong to that hive, and they are ready to fight to the death if necessary to defend their stores.

A colony of average strength, if in normal condition, will, before succumbing to robbers, make such a fight that it would always be remembered by one who witnest it; and it is something I feel safe in saying, but very few have ever seen, after a whole yard has, as the novice would think, begun robbing, it is in reality only the colonies as a whole becoming waked up to the fact that something unusual is taking place, and they are flying around to find out what it is. Then a general call to repel boarders follows, and in a few days things quiet down, with no harm done.

Still, as a matter of fact, I think it much better to avoid as much as possible all disturbances of this kind in a yard, especially late in the fall, for it excites and worries large numbers of bees, and this may do harm by impairing their vitality to endure the long confinement of winter. But whenever I wish to handle a colony for any purpose, such as taking out or exchanging frames, I always do so without any regard whatever as to robbing, no matter whether a drop of honey is coming in or not. In some cases hundreds of robber-bees will get into the hive and on the combs of the colony being handled, but after the hive is closed up they are soon expelled and others prevented from entering. No precaution is taken except to contract the entrance more or less, depending upon the weather and strength of the colony. I do not advise others to do so, but I have practiced this for years with no bad results. With nuclei the case is different. I have reference to full colonies, tho they may be pretty weak and still repel robbers if in normal condition.

In regard to robbing in the spring when bees are first put out, as before mentioned, there is an easy way to overcome this. Simply smoke the colonies already out enough so the bees will fill themselves with honey. It is very quickly and easily done, does not harm the bees, and no robbing will be attempted until the honey in their honey-sacs has been put backs in the combs, and they will be some time doing this, but it is only under exceptional conditions that robbing in the spring is likely to be started. What these conditions are I would be glad to explain for the benefit of the inexperienced, but I fear I have already gotten outside the space I am allowed in one article.

Southern Minnesota.

THE AFTERTHOUGHT

The "Old Reliable" seen thru New and Unreliable Glasses.

By E. E. HASTY, Richards, Ohio.

KEEPING TOADS OUT OF HIVES.

Mr. Brown, I fear it will make us tired eventually to put on wire toad-protectors every night and take them off every morn. Lest we should some of us get exasperated and commit the repulsive crime of bufocide, I will suggest to have the toad hitcht to the brandy-bottle on which the hive stands, and the string so short he can not quite reach the entrance. Page 315.

BLEACHING SECTION HONEY.

The bleaching of section honey which may from any cause be off color, by direct sunshine, is an attractive idea, but beset with difficulties. The propolis varnish will hardly bleach. Pollen may, one would say. Who knows but that dark honey itself may sometimes bleach? Sunshine will not raise the capping which touches honey—but may it not accomplish a little of the same thing sometimes by lowering the honey beneath till it no longer touches? If there is a bad look which is caused by a microscopic surface fungus, sunshine would be a hopeful thing to try for that. I judge that the danger of getting a big lot of honey melted down would, in some climates, be serious. Outdoor sun would be a little safer than behind glass; but the other danger of robbers would mostly forbid that. On the whole, I guess we must wait for the philanthropic individual to experiment, and bear the experimental losses, and we fall in only after he has reported decided success. Page 311.

GRAPE-VINE SHADE FOR BEES.

The grape-vine shade was a particularly precious fad of A. I. Root's, and it's almost sad to see it ill bespoken on the spot of its birth. Sometimes there is a little of unconscious *predisposition* to see all the faults and more in our predecessors' pet things—but perhaps nothing of the kind has operated in this individual case. Page 311.

PUTTING SECTIONS ON EARLY.

It is generally supposed that putting on the sections early decreases swarming somewhat—certainly adds room, and the wise heads all say, give 'em room; but I have sometimes had my doubts. Mr. O. O. Belden, page 310, gets in line with these doubts where he thinks that sections that the bees are not ready for encourage swarming if they have any effect.

WAX-EXTRACTOR CLAIMS ALMOST TOO GOOD.

As to the Ferris wax-extractor, I would await reports from those who have bought and used it. It looks a little *too good*—like some of the double-acting and self-righteous hives that used to be offered us. Page 307.

AIKIN'S BEE-BRUSH—BEES TEARING CAPPINGS.

The Aikin bee-brush, size and length of one's arm, for rough-and-ready wholesale brushing of the whole bottom of a super, as nearly as may be all at once, is worthy of a place and a name, I reckon. He would have it made of coarse marsh-grass, not too stemmy, but rank and wild enough to stand weeks of sun and many wettings up with water to put it in condition. It is a golden rule—not only for taking off supers, but also for pretty much all bee-operations—not to let bees either turn back or stagnate after having started them once. Just keep 'em "gittin' furder" right straight along. I never thought before about there being an important difference as to the time of the day in the matter of bees tearing open the cappings of sections. Now he calls our attention to it I can see it. Not likely to tear cappings when they are carrying honey already; and that state of things is more likely to exist well along in the forenoon than at dawn. *Have your supers of sections peel off clean, with no burr-combs and no drip whatever.* Just hear a strong man shouting once as Aikin says that. Page 322.

"MIXT VARIETIES AND THE HONEY-BEE."

This, it seems, is the war cry which Prof. Cook recommends for the horticulturist. The too greedy cultivator has been greatly inclined in the past to find out what one variety had the most money in it (often a showy fruit hardly fit to eat), and then to plant great solid blocks of that one thing. Nature boxt his ear for it. Nature says: Mix your varieties so intimately that comparatively few flowers will have to depend upon the pollen of their own kind. Have this motto printed around your button—and let the bee do the rest. Page 321.

FALL REST FOR QUEENS.

W. A. Pryal's idea of letting queens have a short fall rest and then stimulating them to lay again in December may be valuable for locations with balmy winter climate. The object of course is to have a strong colony of young bees to open spring with. Page 324.

QUEEN-EXCLUDERS, ETC., FROM FOUL-BROODY COLONIES.

Human beings are mostly much alike. Most of us can be worried by hostile blows often repeated into taking a violently contrary kink—*after which we are no longer good authority on that particular point.* McEvoy with wide experience with foul brood, and great abilities in getting it cured, has been pelted for his easy-going notions about its communicability till he seems to have taken just such a kink. I object quite decidedly to our Dr. Miller's abdicating his own judgment in Mr. McEvoy's favor as he does on page 326. Furniture from a smallpox hospital may be used a dozen times outside and no harm result; but still it is not perfectly safe—and it would be an outrage for a leading journal to teach the people editorially that everybody should do so without fear. Same about the queen-excluders from foul-broody colonies.

A NEW NOTE ON INTRODUCING QUEENS.

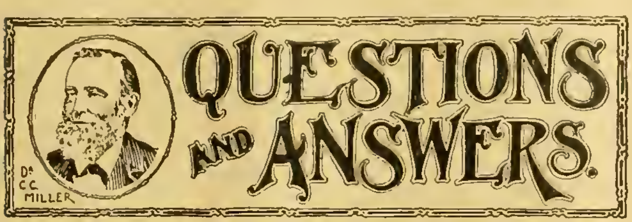
The Ranson method of safe introduction, on page 329, seems to strike a new note where we hardly expected anything radically new. Get the queen scented with the scent of her prospective home by causing a lot of very young bees to crawl over her. Not a bad idea, perhaps.

INTRODUCING VIRGIN QUEENS.

The fact, apparently proved by Mr. Doolittle, page 329, that any method of introducing virgin queens that keeps them alone for awhile shortens their lives and possibly damages them otherwise—well, that is an important fact, and one not generally in people's minds—therefore, a little "rub it in" in this department is in order. One may suspect that any restraint, for more than a few minutes, of the propensity to scramble around endlessly may be a damage to a virgin queen's development. Where Nature says so emphatically "Exercise, exercise, exercise," it should hardly turn out well to go to the contrary extreme.

DISTANCE BEES GATHER PROFITABLY.

And so a mile-wide river, to-wit the Mississippi, close up to an apiary operates to reduce by about one-half the number of acres within actual foraging oversight of the bees, and cuts down the crop decidedly on that account. Bees *can* go across such a barrier, but mostly don't. Mr. C. P. Dadant very ably handles one side of the problem, how far bees may be depended upon to harvest the honey of a piece of territory. How far bees can (and sometimes do) gather, and how far they habitually do it, are two *very* different questions. Have been known to gather at eight miles; and a radius of that length would include over 200 square miles of territory. With 10 colonies for each mile it should then be possible to run 2,000 colonies in one apiary. That sort of thing does not work—presumably because bees do not *habitually* keep in touch with the honey-yield for any such distances. My own opinion is that finding the honey, and not the journeying for it, is the main difficulty. I even dream that great discoveries in our craft may yet be made in the line of helping our bees find distant honey promptly. On this very important practical problem Mr. D. seems inclined to lead the short-radius end of the class, and to put the practical radius at less than a mile and a half. Some of the experiences given are remarkable. An apiary only a quarter of a mile nearer to the fall crop on the river bottom always showing in pounds of honey the advantage of that quarter mile. One failure to find, in a bad famine season, a good harvest less than two miles off. And in an extra-good season two of their own apiaries, only a moderate number of miles apart yielded 140 and 50 pounds, respectively, as averages. Page 323.



CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Queenless Colony.

I have a queenless colony that I have been trying to build up. I have given them brood three times, as recommended in "A B C of Bee-Culture," but they have no queen-cell yet. They started one, but for some reason tore it down after about six days, and since, tho they take good care of brood given them, they build no more. What can I do with them? NORTHERN IOWA.

ANSWER.—It is just possible that they have a played-out queen, which they hold on to, altho she does not lay. It is also possible that the colony has been long queenless, and the bees very old, and old bees are not good at rearing a queen. But the brood you have given them will be hatching out, and the young bees will rear a queen if you give them young brood or eggs. If you keep right on giving them all the brood they can cover, there is little doubt they will rear a queen. But, as a rule, a colony that has been queenless a long time might about as well be broken up. A queen reared by them is not likely to be satisfactory.

◆

Symptoms Point to Bee-Paralysis.

I wish to ask advice about a disease that seems to be establisht in my apiary. I can not find in the standard bee-books, or in back journals, an explanation of it. It originated in a colony of bees whose queen I received from a well-known firm in Ontario last summer. The bees turn a shiny black about one-third up of their abdomens, which are small and pointed. They literally die by the thousands. The queen is very prolific, the frames being always full of brood. When it was confined to one colony I did not care so much, but now I find another of my best colonies going the same way, and I do not know what to do for them. BRITISH COLUMBIA.

ANSWER.—The shiny black appearance points to bee-paralysis, but in that disease the abdomen is not small and pointed, but swollen, and you say nothing about the trembling that accompanies paralysis. It would be well to send a sample of the bees to Dr. Wm. R. Howard, Fort Worth, Tex.

◆

Queenless Colony—Queens Failed to Hatch.

1. About March 1 I bought of a neighbor two box-hives of bees, one very heavy and apparently all right with bees, of course. When I went to bring them home I remarkt to my neighbor on picking up the hive that "I got every bee," and I could not help noticing the absence of roaring in this hive in hauling them home. After getting them home I noticed they were troubled with robbers, and in a day or two, when I transferred them, I found some 50 or 100 old bees with no queen, with plenty of comb and old honey, all the comb containing honey. What was the matter?

2. My favorite old 3-band queen swarmed about May 1, and I divided into nuclei, leaving of course one ripe cell in the old hive, but not one hatcht a queen. What do you think of that? SOUTH CAROLINA.

ANSWERS.—1. It was in all probability a case of queenlessness of long standing, nearly all the bees having died off from old age.

2. Quite likely the cells were chilled. The bees generally build cells toward the outer or lower edges of the combs, which are kept warm enough in a strong colony, but when divided into nuclei there are not enough bees to cover them, and they are chilled. It is well to see that each nucleus has one or more cells in the center of the cluster of the bees. Cut the cells off the edges, and fasten on the surface of the comb where they will be kept warm. A good way to fasten the cell on the comb is to use a tobacco-staple, such as bee-keepers use for fastening bottoms to hives. Let one leg of the staple be over the queen-cell, and thrust the other into the comb.

◆

Hive to Check Swarming.

What size hive would you advise for a honey-flow of from 2 to 4 pounds per day from the last of March to the last of May? I am using 8-frame, some with two stories. My first swarms came from the two-story ones. I want to check swarming all I can. SOUTH ALABAMA.

ANSWER.—Seeing you already have the 8-frame hives, it is quite likely they will suit you as well as any. Other things being equal, two stories will give you less swarming than one-story hives. It is likely that your two-story colonies swarmed more because they were so much stronger. If you had made two of the colonies change places, it would be pretty sure that the one you changed into the smaller hive would have swarmed first. If you are running for extracted honey, you will find two stories all right, but for some reason I have not been able to make two stories work so well for comb honey. To make more sure against swarming, raise the hive three-fourths of an inch or so on four blocks, and make sure that there is a large entrance between the first and second stories. This last is a great help to prevent swarming.

◆

Carbolic Acid vs. Smoke—Flour in Syrup for Pollen—Feeding to Stimulate Brood-Rearing.

1. How shall I proceed to use carbolic acid instead of smoke among bees?

2. (*a.*)—Can wheat flour be put into sugar syrup in spring feeding, to answer purposes of pollen? (*b.*) If so, in what proportion?

3. (*a.*)—Is it advisable to feed in spring to promote brood-rearing where there is plenty of stores in the hive? (*b.*) What danger is there in feeding, if not begun too early? (*c.*) What would be the safe time to begin in latitude 42 degrees, 30 miles west of Boston? MASSACHUSETTS.

ANSWERS.—1. The use of carbolic acid in place of smoke does not seem to meet with much favor in this country, altho some bee-keepers in England are partial to it. Wet a cloth with a solution of the acid, lay the cloth over the frames, and the fumes will drive the bees out of the way in a very short time. You will wonder why I don't tell you how strong to make the solution, and I would gladly tell you, only I don't know. At a guess I should say one part acid to 50 parts water, but that guess may be wild.

2. (*a.*)—Some use it that way. (*b.*) I don't know of any fixt proportion, possibly 1 to 20.

3. (*a.*)—Doubtful. If everything is managed just right, and *if* the weather is just right, it may be a good thing. (*b.*) If begun *late enough* there may be no danger. The chief danger is in stirring up the bees to fly when it is too cold. But if begun late it does little good, for the bees will be then sufficiently stimulated by gathering natural stores. (*c.*) A skillful and prudent bee-keeper might begin any time when bees fly freely. One who is not very careful better not begin at all, and many of the veterans, perhaps the great majority of them, do not practice it at all.

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AMERICAN
ESTABLISHT IN 1861 OLDEST BEE-PAPER IN AMERICA
BEE JOURNAL.
DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS

PUBLISHT WEEKLY BY
GEORGE W. YORK & COMPANY,
118 Michigan Street, Chicago, Ill.

[Entered at the Post-Office at Chicago as Second-Class Mail-Matter.]

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C. C. MILLER, "Questions and Answers." * * E. E. HASTY, "The Afterthought."

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G. M. Doolittle, F. A. Snell, C. P. Dadant, R. C. Aikin, Prof. A. J. Cook, "Old Grimes."

IMPORTANT NOTICES:

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VOL. 40. JUNE 28, 1900. NO. 26

EDITORIAL COMMENTS

NOTE—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

The Brosius Pure-Food Bill was before the last session of Congress, but we learn that no action was taken upon it. However, the friends of the measure in both House and Senate, we understand, are very hopeful of its passage early in the next winter session. All bee-keepers will unite in the hope that it may receive prompt attention when Congress reassembles.

The Honey Season for 1900.—It seems from the reports so far the prospects are not very flattering for a good honey crop this year thruout the country generally. Gleanings in Bee-Culture for June 15 contains these editorial paragraphs referring to this matter:

> Altho it is a little early to make any predictions as to the honey-flow, owing to the lateness of the season, yet present indications would seem to show that the supply of white clover honey will be rather limited this year. Walter S. Pouder, of Indianapolis, who is in close touch with a large area of country, writes, "There is scarcely any white clover in Indiana, Southern Ohio, and Illinois. The outlook is discouraging, and business is growing lighter." Owing to a lack of rains, H. G. Acklin, of St. Paul, wrote us a rather discouraging letter a week or so ago. Since then there have been good rains, but I fear they are too late to do much good unless with basswoods.
>
> The season in California will be better than was at first expected; and especially is this true for the northern and central portions of the State. The rains finally came in the southern part, but too late for the amount of good they might have done.
>
> Black brood has got such a start in certain portions of New York that many of the bee-keepers are discouraged; and even if there is a honey-flow I fear there will be but few bees to gather it. F. A. Salisbury, of Syracuse, reports that prospects are not flattering.
>
> In our vicinity I have seen almost no white clover out, altho there are a good many patches of alsike; but these patches are so limited I fear they will not yield much honey.
>
> Altho this is the 13th of June, our bees at the home yard are getting but very little honey, and the same is true of the out-yard about two miles north of us.
>
> While all of this looks very discouraging, yet it must not be forgotten that the season is unusually late, and there is yet a chance for a fair honey-flow, because the greater portion of the country is being visited with frequent and warm rains. These will have a tendency to stimulate clover, resulting possibly in a slow but continuous nectar supply for a considerable length of time. It should also be remembered that it is a little early yet for most places for clover.
>
> By the way orders have been coming in from Colorado, it would seem that indications, at least for that State, are exceptionally good. As the bee-keepers there do not have to depend upon rains, but on irrigation, in all probability they will have another heavy honey-flow; and I would say to the bee-keepers of that State, do not be in a hurry to sell your honey; for if there should be little or no honey in the East you of Colorado will have things largely your own way. With your splendid organization and fine honey, it is evident that the honey-buyers will have to take the honey at *your* price.
>
> If honey will be scarce, those who do get a crop will be able to gauge prices accordingly. In any case, don't sell too low.

Say What You Mean is a good motto, but one not always easily followed. In one of our exchanges is a paragraph beginning with the statement, "Now is a good time to introduce new queens into your apiary," followed by the direction, "Put a queen on top of a hive which is about to swarm, and leave her there until after the swarm issues." Nothing is said as to whether the queen is to be chained on top of the hive, or whether any parasol is to be furnisht her in case the sun should be very hot. Neither is anything said as to what is to be done with the new "hive" that issues when the old "hive" swarms, or whether a swarm from the colony may be expected at the same time to keep pace with the increase of "hives."

No, it was not some city scribbler who knows nothing about bees who wrote that sentence. It was a man who is well informed, an expert in bee-keeping, with fine command of the English language, which language would be well handled probably by him to score unmercifully any one else who should be so careless as to write a sentence like the one quoted; and, withal, a good fellow, who will rather enjoy seeing his little failing in this one instance held up to view. It only goes to show that when it comes to the matter of writing in the English language we are all "poor critters," to which this deponent claimeth not to be an exception. But it is also a warning for us all to be just a little more careful.

Art vs. Nature in Queen-Rearing.—Mr. G. M. Doolittle is something of a stickler for following nature, but no one has done more than he toward success in departing from nature in the rearing of queens. It can hardly appear according to nature to have a row of cells made artificially and strung on a stick, all the occupants of the cells emerging as queens at nearly the same time. According to nature, the cells would be scattered about the hive, mostly on the edges of the combs, or on some inequality of the comb, an egg first occupying the cell (instead of a larva as in the artificial plan), the occupants of such varying ages that at the time of the issuing of a prime swarm there will be queen-cells sealed, queen-cells with eggs, and queen-cells at various intermediate stages. Yet, in a certain sense there has been no departing from nature in Mr. Doolittle's plans, and the testimony is that as good or better queens are reared than can be produced by taking queens reared under the swarming impulse which so many formerly considered the *ne plus ultra* of queens.

Lately there has been a little discussion in the American Bee-Keeper as to the desirability of having queen-cells constantly in the direct care of the bees, that is, having bees constantly in direct contact with them. Mr. Doolittle says that he found from experience that virgin queens kept caged from the bees were short-lived in proportion to the length of time they were kept from the bees, and he now advises the cells and young queens to be constantly in the embrace of bees from start to finish.

W. H. Pridgen favors a short time of caging, and gives some good reasons for it. He says:

> "I never did much of this, as I soon learned that I could get a laying queen from one just hatcht about as soon; but as I can gain from one to three days by giving the just hatcht downy misses, with the assurance that as few will be rejected as there are cells that fail to hatch and are torn down, I would be glad for Mr. Doolittle to tell us if he thinks they are really injured at all when allowed to remain caged only a few hours at most, and especially if kept at the temperature of a strong colony.
>
> "I keep my cells in immediate touch of the bees until the time for distribution, and then keep them where the queens emerge sooner than is often the case if given to nuclei, and especially early in the season, and in nuclei newly-formed."

The problem is to keep as near to nature as possible in the line of keeping cell and virgin queen at the best temperature, unless it be that there is some special power resident in the actual touch of the workers—a supposition not to be thrust aside too hastily. According to nature the cell will be kept in a strong colony at a uniform temperature, and if the weather be warm enough, or the nucleus strong enough, there will scarcely be any departure from nature in taking a sealed cell from the upper story of a strong colony and giving it to a nucleus.

Mr. Pridgen makes a point in favor of caging the cell just before the young queen is expected to emerge, by saying that if kept thus till the queen emerges, one can see the queen, whereas when a sealed cell is given to a nucleus there is danger that a defective queen may issue, and possibly that no queen may issue.

Let us be thankful that attention is nowadays so strongly directed to the matter of *good* queens rather than handsome ones.

"Impure Food Must Go."—This is the heading of an item in the Chicago Record for June 18, which reads as follows:

> Druggists, grocers, candymakers and packers come under the ban of the new Illinois pure-food law which goes into effect July 1. From that day forward every label on every package of foodstuff must "tell the truth and the whole truth" about the quality of the contents. The man or firm responsible for falsehood will be liable to fine and imprisonment.
>
> July 1 will be a "busy day" for every grocer in the city. Old labels will disappear and new ones take their places. The "pure maple syrup" of yesterday will become plain glucose to-morrow. "Currant jelly" will have a new label, and "apple butter," which never saw an orchard, will have a new name all its own with "apple" excluded. At the breakfast table will be "coffee," and not coffee and chickory mixt, as heretofore. The latter probably will be known as "coffee compound."
>
> Circus lemonade is to suffer, for there is an absolute prohibition of the sale of "lemon extract" which has less than 5 percent of pure lemon-oil. There will be no "honey" unless it is "honey." The present bottled stuff labeled "pure strained honey" will disappear, and "syrup of glucose" will march to the front. There will be pure vanilla, and the druggists will profit thereby.
>
> Next in line among the "interested" people are the baking-powder dealers. After July 1 labels must give a specific statement as to whether the boxes or cans contain an alum, alum phosphate or cream-of-tartar powder. Vinegar also comes under the ban, and dealers in candy must discover if any impure materials have been used in the manufacture of candies, ice cream or foodstuffs.
>
> When the law was past it gave the wholesale and retail dealers 18 months to dispose of the "adulterated" stock. That time is nearly up, and they are pushing the stuff off to their customers as rapidly as possible.

Bee-keepers will watch with much interest the enforcement of the new Illinois law against adulteration of foods offered to the public. We believe it will be lookt after conscientiously by those whose duty it is to see that it is obeyed, as they appear to be men that mean to try to do their duty. We wish them every success, and would be glad to aid them in every way we possibly can.

Those Premium Dr. Miller Queens.—The following letter from Dr. Miller explains itself:

> MR. EDITOR:—A correspondent writes requesting a suspension of the rule so that his premium queen be sent at once without waiting its turn. He is probably joking, but there is no doubt that some are feeling that there is unwarranted delay in receiving their queens. And those sending in the last are likely to be among those expecting queens first. It should be remembered, however, that *time* is an essential factor in the rearing of queens, and when there is a large list, those that come at the last end should expect their queens in September rather than in June.
>
> It is only fair to say, however, that the first queens on the list were sent out much later than I had anticipated—a delay which no one regrets more than I. The chief culprit in the matter is that all-prevailing, all-pervading individual, the *weather*. In all my experience in bee-keeping, I think I never knew so much April weather left over for summer consumption. Days have been cold, and nights colder. The first clover blossom was seen May 22, and supers were put on in due season, only to be left unnoticed by the bees till about June 18, when some colonies began work slowly. Ordinarily, when bees store nothing from clover within two or three weeks of its first appearance, it may be considered settled that it is one of the years when white clover doesn't "give down" any honey. This year, however, I suspect the trouble is all due to the weather, and that after waiting four weeks there may yet be a crop of clover honey, if the clerk of the weather only sees fit to allow winter clothing to be laid permanently aside.
>
> If summer really comes, extra effort will be made so that those later on the list will get their queens as early as could have been originally expected, each queen being sent out in order as fast as possible. To those first on the list I can only express my sincere regret—I can not honestly say apology for that for which I am not really to blame—that there has been any delay, the delay probably being more annoying to myself than to any one else.
>
> While I have the floor I may as well say another word as to the character of the queens. Some of them are fine in color, more of them are not handsome at all. As to *worker* progeny, there will probably be very little difference, all being of the same stock. I confess to a real liking for beautiful bees, and would rather have very yellow bees, if at the same time they were the best workers. I prefer utility, however, to beauty, and try to rear the queens that will give me the most honey, and your subscribers will get the kind of queens I rear for my own use.
>
> C. C. MILLER.

Several of those entitled to receive Dr. Miller queens have written us enquiring as to the cause of the delay in mailing them; and one or two have written in a most discourteous manner. Now, it seems to us that all should be willing to believe, by this time, that Dr. Miller would get those queens off at the very first possible moment. Surely, every bee-keeper who is at all acquainted with Dr. Miller would not question his honesty of purpose and effort to do exactly as he agrees, every time.

Please remember that to all will be mailed a postal card notice a day before the queens are mailed, and that they will be gotten off just as rapidly as Dr. Miller can do it, and do it well. But he can't control the weather any more successfully than other people have been able to do.

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Price of Queens after July 1.	1	6	12
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GENERAL ITEMS

Lovely June.

BY CLARA EMILINE CONVERS.

List to the tinkle of
Bells in the dells;
Each a fond tale of love
Tenderly tells!
Come to me where I wait
Under the vine
Down by the garden gate,
Lover of mine—
Come to me, bring to me
Love's fullest measure:
Fondle me, sing to me,
O my soul's treasure!

List to the coaxing croon
Of the grave dove;
O blissful days of June,
Fragrant with love!
Come to me tenderly,
Lull me to rest;
With thy arms pinion me
Close to thy breast—
Come where I wait for thee,
Here in my bower:
Thy lips the honey bee,
My lips the flower.
—Chicago Times-Herald.

Fastening Foundation in Sections.

I meet a great many bee-keepers who dread the job of fastening foundation to sections without a great deal of trouble. To such I will try and explain the easiest and quickest way that it can be done without a press.

First roll the sections in a wet cloth or paper, say over night, as many as you want to use the next day, so they will not break in folding. Take a small piece of beeswax, or ball a piece of foundation the size of a hickorynut, and briskly rub two or three times across the upper part of the section, where you stick the foundation; rub all you intend to use that day, then cut the foundation the size you want to use; place the edge on the section where you rubbed, wet the hammer and tap the edge of the foundation lightly, and rub across the edge, and the foundation is stuck for keeps. Then fold the sections, straighten the foundation, and place in supers. With a little practice you can fold and fasten foundation in more sections than in any other way, and do it right.

CHARLES SMAIL.

Shelby Co., Ohio, June 16.

The Olive as a Honey-Yielder.

What do you think about this olive twig all over blooming? Just so looks the whole tree. And what a fragrance! It is carried for miles. But you perhaps know this Russian olive tree better than I do, so you will have noticed that the flowers appear by-and-by, and that the bees seem to be very much after them. Can you tell me whether the olive blossoms are rich in nectar or not? Are the lilies and roses also of any value to the bees?

C. H. FRIESEN.

Marion Co., Kan., May 28.

[We referred the above to Prof. Cook, who sends the following reply:—EDITOR.]

The letter from Mr. Friesen is of general interest, as there is a principle connected with his question that touches all flowers. The olive, the

The Queen Crank
Is before the readers of this Journal with a petition for orders for as fine Queens as he has ever been able to rear. They are being, and have been for some weeks, reared in triple-decker 10-frame hives, from choice Golden and Three-Band Mothers, in a Golden yard. The Bee-Keepers' Review, of Flint, Mich., for May (which is a special queen-rearing number) tells how it is done. Ask for a copy. Tested, $1.00; untested, 75 cents. Money order office, Warrenton, N. C. **W. H. PRIDGEN,**
24Atf Creek, Warren Co., N.C.
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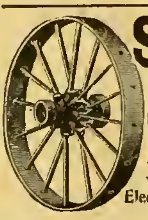

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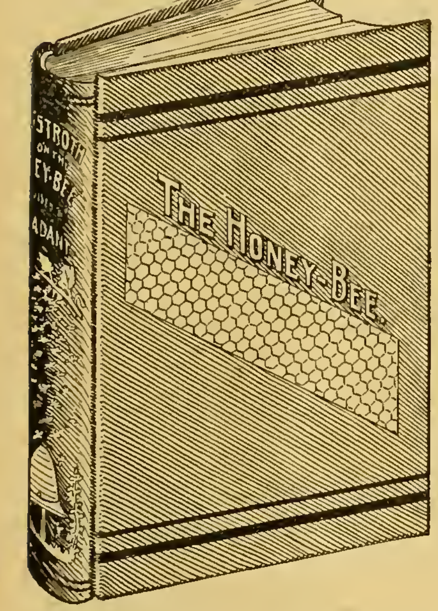
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Mission or any other variety, does furnish nectar whenever it attracts the bees. This is true of any blossom. It may be said truly that when any flower is fragrant it is almost sure to contain nectar. The color of flowers, as also their fragrance, is specially to attract bees and other nectar-loving insects, that they may pollenize the blossoms. We find that the olive in this region is a very shy bearer, and one important reason is that often only one variety was planted, and as this plant or fruit is sterile to its own pollen, it fails to fruit. I have proved by direct experiment, that the olive will not bear fully unless it is cross-pollinated. It is very important, then, that the olive be planted so as to mix varieties that blossom at the same time, and there should be honey-bees in the region to do the work of carrying the pollen from the flowers of one tree to those of another.

We should remember, then—

1st. All showy flowers are nectar-bearing.

2d. All fragrant flowers are honey-plants.

3d. Every bee-keeper is interested in all showy and all fragrant flowers, practically.

4th. In planting orchards, the fruit-grower should mix varieties, and not plant in solid blocks.

5th. As most fruit-trees require cross-pollination, and as the honey-bee is the great agent in this work, every orchardist should see to it that there is a goodly number of colonies of bees near his orchard. A. J. COOK.

Los Angeles Co., Calif., June 16.

Bees Not Doing Well.

Bees are not doing very well here, yet. They wintered well, but the spring was very unfavorable for breeding, and since the white clover blossomed the weather has been bad for the bees about half of the time.

A. W. SMITH.

Sullivan Co., N. Y., June 16.

Very Dry Weather.

It is terrible dry here. Some white clover is in blossom. We must have rain soon if we have any white honey. I had my first swarm today. The cold spring left many colonies weak.

CHAS. B. ALLEN.

Oswego Co., N. Y., June 11.

Report of Early Honey, Etc.

In a former report it had been stated that we were extracting honey on May 16, stored from the early sources, notably the poplar, maple, dandelion and fruit-bloom, all of which are too early for bees to store surplus, managed on the ordinary methods.

The artificial swarms made May 5, from which were taken off, respectively, 52, 48, 46 and 47 pounds gross, we are again (June 7), extracting the surplus stored from raspberry, and other early sources.

The queen that is now entering on her sixth year gives us 33 pounds more, which added to the 52 pounds, as reported May 16, makes 85 pounds for this particular colony. Allowing 32 pounds for supers and combs, leaves 53 pounds of extracted honey, with bees

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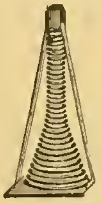

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The following offer is made to PRESENT subscribers only, and no premium is also given to the two NEW subscribers—simply the Bee Journal for one year:

Send us TWO NEW SUBSCRIBERS to the Bee Journal (with $2.00), and we will mail you a copy of Prof. Cook's book FREE as a premium. Prof. Cook's book alone sent for $1.25, or we club it with the Bee Journal for a year—both for only $1.75. But surely anybody can get only TWO NEW SUBSCRIBERS to the Bee Journal for a year, and thus get the book as a premium. Let every body try for it. Will YOU have one?

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18Atf Please mention the Bee Journal.

enough, on May 26, to cover 48 frames—32 full-depth, and 16 half-depth frames—because on this date all the brood and eggs were out in the 10-frame nucleus.

May 28 the artificial swarms had quite a notable field-force of two-days-old bees storing honey.

The 16-frame nuclei with fine young queens and several frames of brood and eggs, and honey stored in surplus supers, are very promising.

The aforesaid queen, when 3 years younger, occupying the same kind of hive, and in the same house, managed by the ordinary methods, failed to have a field-force sufficiently strong to store surplus from the above-mentioned early sources. Whereas, by our present system, she gives us 53 pounds of extracted honey and a 16-frame nucleus with honey stored in the super by the first of June. While she is, by a few pounds of honey, ahead of other colonies, yet she is behind some in brood-rearing. B. J. CHRYSOSTOM.

St. Joseph Co., Ind.

A Report—Alsike Clover, Etc.

My bees went thru the past winter without the loss of a single colony, but two were robbed this spring. I put them in the cellar Dec. 3, and took them out April 5; the next day they were working on soft maple bloom. They built up very fast on willow and fruit-bloom, and 2 weeks ago I found a number of covers filled with honey where the boards had been left off.

Bees all about here are strong in numbers, and if the fields produce the material the prospect is encouraging for a good crop of honey.

White clover bloom is in full blast—10 or 12 days earlier than usual—and the bees are right after it—a proof that it is yielding honey better than for 2 or 3 years; but the crop that has never

$5.00 per month will pay for medical treatment for any reader of the American Bee Journal. This offer is good for 3 months ONLY—from May 1 to Aug. 1. Dr. Peiro makes this special offer to test the virtue of small price for best medical services. Reply AT ONCE.

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Last winter's cut of basswood is the whitest it has been for many seasons. We are now making sections out of this new stock and therefore are in a position to furnish you with the very finest quality in the market.

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Orders shipt immediately upon receipt. A complete line of everything needed in the apiary. Five different styles of Bee-Hives.

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OUR TOIL DOTH SWEETEN OTHERS

For sending us **ONE NEW SUBSCRIBER** to the Bee Journal for the balance of this year, with **50 cents,** we will mail you **FOUR** of these pretty buttons for wearing on the coat-lapel. (You can wear one and give the others to the children.) The queen has a golden tinge. This offer is made only to our present regular subscribers.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate, it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

Prices of Buttons alone, postpaid: One button, 8 cts.; 2 buttons, 6 cts. each; 5 or more, 5 cts. each. (Stamps taken.) Address,

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Tested Italian Queens, $1.00; Untested Queens, 60 cents. From honey-gathering stock.
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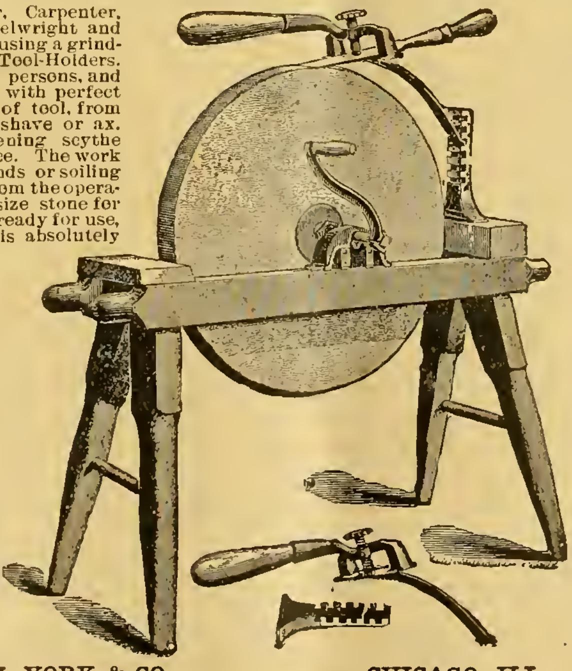
No farm is well-equipped unless it has a Tool-Holder. Pays for itself in a short time.

How to Use the Holder.

Directions.—The Tool is fastened securely in the Holder by a set-screw and can be ground to any desired bevel by inserting the arm of the Holder into a higher or lower notch of the standard. While turning the crank with the right hand, the left rests on an steadies the Holder; the Tool is moved to the right or left across the stone, or examined while grinding, as readily and in the same way as if held in the hands.

For grinding **Round-Edge Tools,** the holes in the standard are used instead of the notches.



Address, **GEORGE W. YORK & CO.,** **CHICAGO, ILL.**

failed us before in 10 years, since we began raising it, nearly all winter-killed, together with red clover, last winter. I refer to alsike clover. We raise our own seed and usually sow 10 or 12 acres every spring. It not only never fails to yield a goodly amount of honey, but, with a light mixture of timothy to hold it up, it makes the best hay for stock we ever had. There is literally no waste, the cattle consuming every vestige of it if cut in proper season.

It is usually supposed that alsike will not thrive well on dry soils, but we raise large crops on our driest land by first removing the piles of manure that accumulate about the buildings of every stock-farm to the land that needs it most, instead of removing the buildings from the manure piles.

I have been aching for years to get sweet clover started here, but have not done so on account of the undue prejudice against it by the majority of the people; still, there are plenty of farmers of my acquaintance who will allow the dirty asthma-breeding ragweed to grow and flourish along the roads bordering their farms, without a murmur, who, at sight of a little sweet clover, would raise an awful howl.

The writer of "General directions for finding the queen," on page 354, is original if nothing more. Summarized to me, it means—and nothing more—"If at first you don't succeed, try, try again." (I hope the author of "Afterthought" will not accuse me of trespassing on his ground.) A. F. Foote.

Mitchell Co., Iowa, June 9.

Removing Honey Early.

I never saw bees doing so well at this time of the year. I have commenced to take off supers already. I never took any off in June before. W. K. Bates.

Winona Co., Minn., June 20.

BEEDOM BOILED DOWN

Selling Granulated Honey.—Bee-keepers generally thruout the country appear to be awaking to the importance of some educational work among the masses in regard to extracted honey. There is indeed a degree of ignorance prevalent in the land regarding the nature, care and use of honey, both comb and extracted, that is amazing; but the particular point that is at present engaging the attention of the producer is that of educating the people to the use of the candied extracted article.

It is quite generally believed that granulated honey is adulterated—that the granules in the liquid are an adulterant—and the majority of retail dealers, sharing this ignorance, are incapable of rendering a true explanation to the prospective buyer, but he will instead most likely apply the force of his argument to the deliverance of his own untarnisht name from the menacing stigma, laying particular stress upon his personal good faith and innocence in buying the "stuff." This will, of course, be supplemented with an apology for having offered it to his esteemed patron. This may appear somewhat overdrawn; but we have witnest just such an instance.

It does seem just a trifle strange that in 6,000 years (or 60,000, as the case may be) people have not learned that honey will granulate in cold weather, and that they are yet afraid of this most wholesome, pure and delicious food after the change has taken place.

It behooves producers of extracted honey to work earnestly to disabuse the public mind of this popular error, and to disseminate a knowledge of the ease with which honey may be restored to its liquid state when preferred in that condition. Granulated honey is very much preferred by many to that in liquid form, and some of our Western producers have so educated the trade that their goods are not lookt for in any other way—indeed, their honey is not put upon the market until after it has granulated. Specific instructions for liquefying the contents goes with each retail package. In this condition there is no spilling and daubing, and the crop is marketed and retailed in the same cleanly and neat manner as an invoice of canned fruits.

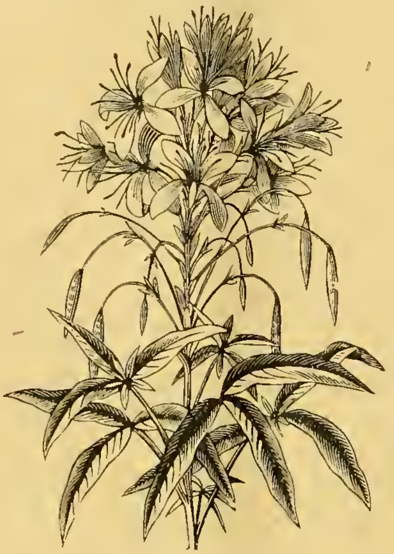
The subject is one worthy of serious thought, and the expenditure of some effort on the part of those interested in the development of a permanent and profitable market for extracted honey. —American Bee-Keeper.

Contraction and Its Effect.—The practice of using only five frames in an 8-frame brood-chamber, and filling up the space with dummies for the purpose of forcing what honey does come in into the supers, is called "contraction." This was extensively practiced a few years ago, but is now generally abandoned. It is far better to have the colonies so strong that when the first honey comes, it will be rusht right into the supers. It is better to use a full-sized brood-nest than to putter away with weak colonies with a contracted brood-nest. But if the honey-flow is short, and colonies are not overly strong, then contraction may be practiced sometimes to advantage. But in this case it will be necessary to watch closely for swarms, as contraction has quite a tendency to encourage the swarming propensity, because the bees seem to need more room for brood-rearing.—E. R. Root, in Gleanings in Bee-Culture.

Using Soiled Brood-Combs. — We had quite an experience a year ago with soiled combs from colonies having died the winter before, and very many bee-keepers are more or less troubled with such combs every year. The question then arises, "What is the best use we can make of these combs?" I have seen it recommended within a short time to give them to young swarms. In my experience I found that to be the worst use I could put them to, and that in the face of the fact that sometimes young swarms will select for their home a hive that had been previously occupied by a colony, and is filled with soiled combs of the very worst character. Many a time have I hived swarms into hives full of comb, and not very bad comb at that; but in by far the most cases the bees would not stay, and could not be made to stay, not even by caging their queen. With me the bees seem to prefer to go back to their old home minus a queen; or if the queen was at liberty the whole company would respectfully bid me good-by. If one really wishes to utilize old combs for his young swarms, as good a way as I know of is to first let them go thru a cleaning process on top of a good, strong colony; and the more honey is stored in them by that colony, the better the result will be. It will nearly all be carried up into the sections, or used up some way. A young swarm hived on solid combs of honey will astonish the owner in the amount of section honey it will produce. A few soiled combs may be given to a young swarm at a time, after the same is well establisht in a new home, the same as is admissible or advisable in case of old colonies. —F. Greiner, in Gleanings in Bee-Culture.

Rocky Mountain Bee-Plant Seed!
(*Cleome integrifolia.*)
...FREE AS A PREMIUM...

The A B C of Bee-Culture says of it: "This is a beautiful plant for the flower-garden, to say nothing of the honey it produces. It grows from two to three feet in hight, and bears large clusters of bright pink flowers. It grows naturally on the Rocky Mountains, and in Colorado, where it is said to furnish large quantities of honey."



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We have a few pounds of this Cleome seed, and offer to mail a ¼-pound package as a premium for sending us ONE NEW subscriber to the American Bee Journal, with $1.00; or ¼ pound by mail for 40 cents.

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Italian Queens Finely markt—from freshly imported NEW stock. By mail, price, $1. Address all orders to
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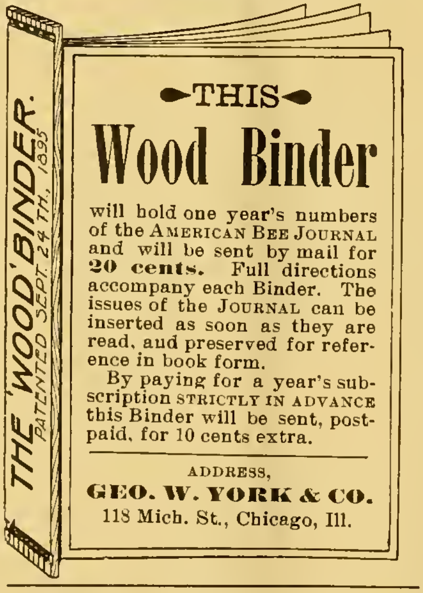
BELL BRANCH, MICH.



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Releasing Queens at Night.—Mr. S. A. Dyke, of West Virginia, writes me of the excellent success he has had in releasing queens at night, when trying to introduce them. He has a cage so arranged that when the slide is withdrawn the opening to the cage is still covered with paper that is saturated with honey. The slide is withdrawn at sundown. By the time the slip of paper is eaten out it is night, and all is quiet. One advantage of releasing a queen in this way, instead of watching her as she leaves the cage, is that there is no danger of her flying away. I once liberated ten queens just at dusk, when it was so dark that a lamp was needed. They had been kept away from the bees and allowed no food for half an hour. This was according to some instructions given by some foreigner—I think it was Mr. Simmins. The whole ten queens were accepted—perhaps they might have been anyway. Whether releasing them at night had anything to do with their acceptance is hard to say. Leaving them without food for half an hour makes them hungry, and they are in a mood to accept any food that is offered them by the workers, which is one factor in their favor.—Bee-Keepers' Review.

Prevention of Drone-Comb.—The way I manage is to give new swarms which are to build comb, a brood-chamber of only about half the size of the one from which the swarm came, this smaller stze being made by contracting it with dummies, while a part of the surplus for section honey is placed over the frames at the time of hiving. Some of the sections in the surplus arrangement should be partly filled with comb left over from the season previous, so as to start work in the sections at the same time the bees start below. This causes the bees to store honey above while they build comb more slowly below, building only as fast as the prolificness of the queen demands it.

As the queen's ability for laying increases, more frames are added, so that at the end of the season I have the hive filled, or very nearly so, with nice worker-comb, and secure lots of section honey. By this plan I secure three important items—much section honey, very little drone-comb, and a hive filled with nice, straight worker-comb, the latter costing less, in my estimation, than it would to buy the foundation, wire the frames, and fit the foundation into them.—G. M. DOOLITTLE, Gleanings in Bee-Culture.

Admirable Advice to Advertisers from "Agricultural Advertising."

Nothing except the mint can make money without advertising. — Gladstone.

I would as soon think of doing business without clerks as without advertising.—John Wanamaker.

The old mediums, provided they have kept up with the times, are usually good things to stick to.—Advisor.

When you pay more for the rent of your business house than for advertising your business, you are pursuing a false policy. If you can do business, let it be known.—Franklin.

"Let people know where you are and what you have. Use more printer's ink and there will be a demand for your stock such as was never known before." — Hon. John W. Springer, president National Live-Stock Association.

Senator Chauncey Depew, in a recent interview, said that the country is at present suffering not from business stagnation or overproduction, but rather from an "indigestion of prosperity." He might have added that the pepsin of advertising is the best remedy for such indigestion.

De Weddin' Day.

BY FRED H. YAPLE.

Pick de banjo, honey—put in dem ting-a-lings—
Keep yo' fingers goin' cross de home-made strings:
  For de darkies will be singin';
  So keep the banjo ringin'
Like notes de little southern bluebird sings.

Pick de banjo, honey—put in dem ting-a-lings—
Beat dem feet so lively, fo' dat's de day dat brings
  Back de reckoleckshuns dear—
  So make de music clear—
Like notes de little southern bluebird sings.

Pick de banjo, honey, fo' de weddin' day am comin',
In de golden summer time, when all de bees am hummin';
  So pick dem good and fast,
  Fo' dat weddin' may be de last
Dat I'll eber hear dem lubly strings a tummin'.

So pick de banjo, honey—put in dem ting-a-lings—
When de darkies am a-dancin', den finger on dem strings,
  "De Mobile Buck" an' "Watermelon Sweet"—
  Dey'll hoe 'em down wid lively feet—
To de notes like de little southern bluebird sings.
—Chicago Daily News.

Texas.—The Central Texas Bee-Keepers' Association convenes in seventh annual convention, at Hutto, Tex., July 12 and 13, 1900. All are cordially invited to attend. Excursion rates, and no hotel bills to pay.

Hunter, Tex. LOUIS SCHOLL, Sec.

California! If you care to know of its Fruits, Flowers, Climate or Resources, send for a sample copy of California's Favorite Paper—

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George W. York & Co. 118 Mich. St. Chicago.

Bees and Honey, or Management of an Apiary for Pleasure and Profit, by Thomas G. Newman.—It is nicely illustrated, contains 160 pages, beautifully printed in the highest style of the art, and bound in cloth, gold-lettered. Price, in cloth, 75 cents; in paper, 50 cents.

Langstroth on the Honey-Bee, revised by Dadant.—This classic in bee-culture has been entirely re-written, and is fully illustrated. It treats of everything relating to bees and bee-keeping. No apiarian library is complete without this standard work by Rev. L. L. Langstroth—the Father of American Bee-Culture. It has 520 pages, bound in cloth. Price, $1.25.

Bee-Keepers' Guide, or Manual of the Apiary, by Prof. A. J. Cook, of the Michigan Agricultural College.—This book is not only instructive and helpful as a guide in bee-keeping, but is interesting and thoroly practical and scientific. It contains a full delineation of the anatomy and physiology of bees. 460 pages, bound in cloth and fully illustrated. Price, $1.25.

Scientific Queen-Rearing, as Practically Applied, by G. M. Doolittle.—A method by which the very best of queen-bees are reared in perfect accord with Nature's way. Bound in cloth and illustrated. Price, $1.00.

A B C of Bee-Culture, by A. I. Root.—A cyclopædia of 400 pages, describing everything pertaining to the care of the honey-bees. Contains 300 engravings. It was written especially for beginners. Bound in cloth. Price, $1.20.

Advanced Bee-Culture, Its Methods and Management, by W. Z. Hutchinson.—The author of this work is a practical and entertaining writer. You should read his book; 90 pages, bound in paper, and illustrated. Price, 50 cents.

Rational Bee-Keeping, by Dr. John Dzierzon.—This is a translation of his latest German book on bee-culture. It has 350 pages, bound in paper covers, $1.00.

Bienen-Kultur, by Thos. G Newman.—This is a German translation of the principal portion of the book called "Bees and Honey." 100-page pamphlet. Price, 25 cents.

Bienenzucht und Honiggewinnung, nach der neuesten methode (German) by J. F. Eggers.—This book gives the latest and most approved methods of bee-keeping in an easy, comprehensive style, with illustrations to suit the subject. 50 pages, board cover. Price, 50 cents.

Bee-Keeping for Beginners, by Dr. J. P. H. Brown, of Georgia.—A practical and condenst treatise on the honey-bee, giving the best modes of management in order to secure the most profit. 110 pages, bound in paper. Price, 50 cts.

Bee-Keeping for Profit, by Dr. G. L. Tinker.—Revised and enlarged. It details the author's "new system, or how to get the largest yields of comb or extracted honey." 80 pages, illustrated. Price, 25 cents.

Apiary Register, by Thomas G. Newman.—Devotes two pages to a colony. Leather binding. Price, for 50 colonies, $1.00; for 100 colonies, $1.25.

Dr. Howard's Book on Foul Brood.—Gives the McEvoy Treatment and reviews the experiments of others. Price, 25 cents.

Winter Problem in Bee-Keeping, by G. R. Pierce.—Result of 25 years' experience. 30 cts.

Foul Brood Treatment, by Prof. F. R. Cheshire.—Its Cause and Prevention. Price, 10 cts.

Foul Brood, by A. R. Kohnke.—Origin, Development and Cure. Price, 10 cents.

Capons and Caponizing, by Dr. Sawyer, Fanny Field, and others.—Illustrated. All about caponizing fowls, and thus how to make the most money in poultry-raising. 64 pages. Price, 20c.

Our Poultry Doctor, or Health in the Poultry Yard and How to Cure Sick Fowls, by Fanny Field.—Everything about Poultry Diseases and their Cure. 64 pages. Price, 20 cents.

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ALBINO QUEENS If you want the most prolific Queens—If you want the gentlest Bees—If you want the best honey-gatherers you ever saw—try my Albinos. Untested Queens in April, $1.00; Tested, $1.50.

12A26t J. D. GIVENS, LISBON, TEX.

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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, June 19.—Not any new comb honey on the market with the exception of a little sweet clover, which, owing to the scarcity of comb honey, has sold at 15 cents. Extracted is slow of sale with 7 cents about highest price that can be obtained for white: 6½@7c for best ambers, and 5½@6c for dark grades Beeswax, 27@28c.
R. A. BURNETT & Co.

KANSAS CITY, June 20.—We quote: No. 1 white comb, 14@15c; No. 1 amber, 13@14c; No. 2 white and amber, 13@13½c. Extracted, white, 7½@8c; amber, 7c. No beeswax in the market.

We have a shipment of new comb honey in transit from Florida. The supply of old comb honey is very light, mostly candied.
C. C. CLEMONS & Co.

DETROIT, May 24.—Fancy white comb, 15@16c; No. 1, white, 14@15c; amber and dark, 10@12c. Extracted, white, 7c; amber and dark, 5@6c. Beeswax, 25@26c.

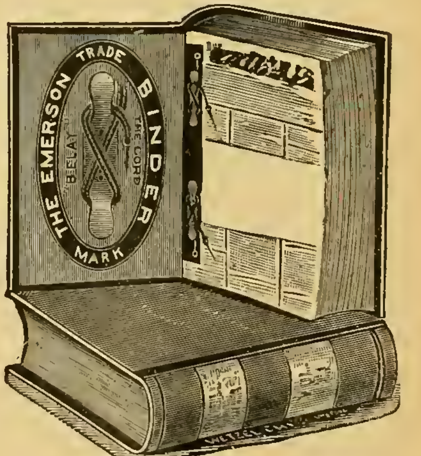
Supply and demand for honey both limited.
M. H. HUNT & SON.

NEW YORK, May 21.—Our market is practically bare of comb honey, and there is a good demand for white at from 13@15c per pound, according to quality and style of package. The market on extracted is rather quiet, and inactive. New crop is slow in coming in, and prices have not yet been establisht. Beeswax holds firm at 27@28c. HILDRETH & SEGELKEN.

SAN FRANCISCO, June 6.—White comb, 11½@12½c; amber, 8@10c. Extracted, white, 6½@7c. light amber, 6@6½c; amber, 5@5½c; Beeswax, 26@27c.

There is not much honey on market, either old or new. Small quantities of new comb and extracted are going to local trade at comparatively stiff values. In some instances, especially for comb, an advance on best figures warranted as a quotation are being realized. To secure export orders, however, of anything like wholesale proportions, prices above noted would have to be materially shaded.

The Emerson Binder



This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

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118 Michigan Street, CHICAGO, ILL.

BEES **QUEENS** Smokers, Sections, Comb Foundation And all Apiarian Supplies cheap. Send for FREE Catalogue. E. T. FLANAGAN, Belleville, Ill.

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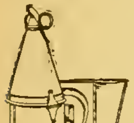

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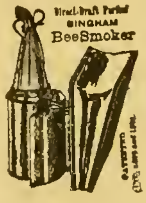

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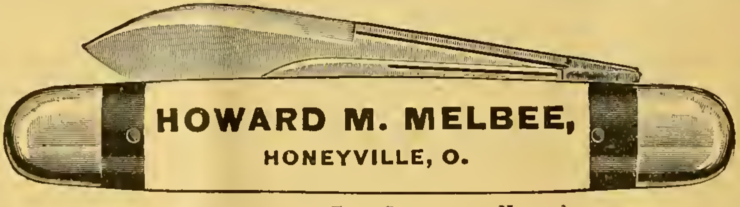

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How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

How to Get this Valuable Knife.—We send it postpaid for $1.10, or give it as a Premium to the one sending us THREE NEW SUBSCRIBERS to the Bee Journal (with $3.00.) We will club the Novelty Knife and the Bee Journal for one year, both for $1.90.

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GEORGE W. YORK, Editor.

AMERICAN BEE JOURNAL.
ESTABLISHT IN 1861 OLDEST BEE-PAPER IN AMERICA
DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS.

40th YEAR. CHICAGO, ILL., JULY 5, 1900. No. 27.

CONTRIBUTED ARTICLES

The Yellow Sweet Clover (Melilotus Officinalis.)

BY JOHN R. SCHMIDT.

THIS subject has been written up so often in our bee-periodicals during the past two or three years that it is almost impossible to say anything new. But it is such a good thing that those who have had any experience with this queen of honey-plants never tire of seeing it "aired" in the journals from time to time by some enthusiast. This, at least, has been my experience, and it now appears before the readers once more, and I use as an illustration a photograph from nature instead of the usual pen-and-ink drawing. My first intention was to get a picture of the whole patch of clover in bloom, but owing to yellow photographing very dark, the whole beauty of the picture was lost, and undesirable for reproduction. The accompanying picture is a branch in detail, and, taken as a whole, more desirable than a large mass of the same thing.

Yellow Sweet Clover in Bloom.

The yellow variety of sweet clover is much more scarce than the white, but I am pleased to say it has all the good qualities of the white, and some to spare of its own. It may justly be called its own sister, as a description of the the white variety answers equally well for the yellow, with a few exceptions as to color, etc.

This plant begins to bloom when the common white clover (trifolium repens) first makes its appearance, and sometimes a little sooner—this year about the middle of May, which is at least 4 weeks ahead of the white variety of sweet clover.

The plants do not grow as tall as the white, but it is in my estimation a better bloomer. The stems are thinner and more slender, and the leaves are very small. When a large mass is seen in full bloom it presents a solid, yellow color, the leaves being almost entirely hidden from view by the profuse bloom. This bloom lasts 5 or 6 weeks, and then the white sweet clover forges ahead and claims our attention. Just think of the beautiful appearance these so-called "obnoxious weeds" would present if they were sown together and allowed to bloom unmolested along our roads and waste lands! White, and golden yellow, how beautifully they harmonize, and how rich and pure! Try a combination of these two colors and see how pleasing they are; or, better still, get some seed of each of these plants and have the plants themselves. Once started they will need no further care, and will spread rapidly.

The honey-producing qualities of the yellow sweet clover cannot be excelled if ever equaled by any other plant, excepting the white sweet clover. The following little instance will serve as a good example:

The past early spring and up to the last of May I practiced uncapping sealed honey and spreading brood almost to an extreme, and as a result the hives were crammed full of brood with little or no honey. Then came a spell of very disagreeably cool, rainy weather, with the bees confined to the hives almost entirely for 5 days. At the end of this time all the honey was consumed, and they were actually beginning to starve. The prospects for buying several dollars' worth of granulated sugar were excellent, but on the sixth day the clouds all cleared away, the weather warmed up, and the bees began to work desperately upon a small patch of this yellow clover along a railroad track. As this was the only thing they were working on I thought the sugar had to be bought anyhow.

But I waited two days longer, trusting to luck that they would at least work upon the profuse bloom of white Dutch clover that was now in bloom; but every bee seemed to make a bee-line for this yellow clover, and it fairly swarmed with them. Late in the afternoon of the second day I took a peep at some queen-cells that I expected to hatch, and you can imagine my surprise on seeing the top part of each comb more or less filled with *new honey*. Now, I know this came from the yellow clover, because it was so black and dirty. I first thought it was stored on top of pollen, but this was the color of the honey, and was caused by the soot and dirt falling on the blossoms from passing trains.

This patch of yellow sweet clover is the only one in reach of my bees, and is about 4 years old, the first plants of which undoubtedly received their start from seed dropping from a passing freight-car. It extends along the railroad track about 200 yards, while all the plants together would probably cover a space about 30 feet square. So you can see it does not take long to spread, and that a small amount will make a good showing in the hives. Everyone should introduce this clover in his neighborhood, if it is not already there, and he will have a plant that never fails (as I know of) to yield nectar, and undoubtedly will have the best and most reliable honey-plant in existence.

Do not spend money on white Dutch clover, as it is unreliable, and in some places does not yield at all. It grows everywhere here, but no matter what kind of weather we have it always fails to yield, and the bees seldom visit it. This year there is an unusually large bloom, but not a bee can be seen on the blossoms, and this is after we have had extensive rains. Both white and alsike clover grow rank here, but it is all the same as far as honey is concerned.

I have said nothing of yellow sweet clover excepting as a honey-plant, and this serves only as an introduction to what some one else may say who grows it more extensively for other purposes. Judging from the growth of the plant I should think stock would accept it more readily than the white variety. I hope some one else will tell us more about it.

Hamilton Co., Ohio.

[We have a small quantity of the seed of the yellow sweet clover which we offer postpaid at these prices: One pound, $1.00; ½ pound, 60 cents. Or, we will send ½ pound with the American Bee Journal 1 year for $1.40.—Editor.]

Robbing Among Bees—Can It Be Prevented?

BY G. M. DOOLITTLE.

A CORRESPONDENT seems to be in a very anxious state of mind, and writes thus: "Is there any such thing as preventing bees from robbing each other in the spring? If there is, won't you tell us how it can be done? I have had some robbing in my apiary before, but never such persistent attacks as this year, and I fear I shall lose many of my colonies unless something begins to yield honey, or stormy weather occurs so as to keep the bees in the hives for a few days."

Quinby, in his "Mysteries of Bee-Keeping," tells us that there is little excuse for having bees robbed by other colonies at any other time save in early spring, thus admitting that even as great a bee-keeper as he was could not fully prevent robbing at this season of the year. And I doubt if that apiarist lives whose patience has not been severely tried at some time in his bee-keeping life in trying to save weaker colonies from being robbed during the spring of the year.

The first thing to be done by way of preventing robbing is to take *every* precaution against the *possibility* of robbing occurring. Right here is where the beginner is the most likely to err. Hive-entrances to weak colonies are often left open full width till robbing is started, when they are shut so closely that the colony seeks to escape from their imprisonment, rather than protect their stores. The hives are opened in the middle of warm days, and the frames of honey left exposed so long that robbing gets started before the hive is closed, the bees of the hive often being smoked from fear of stings till confusion so reigns that the bees are in no condition to defend themselves till the robbers have overpowered them.

Then, hives of honey from which bees have died during the winter are left outside till the bees get to carrying off their contents, when they are suddenly taken away at a time when the bees are fairly crazy for more, and being so suddenly deprived of the "mine" from which to steal, they pounce on unsuspecting colonies in such force that the guards are not able to keep all of them out of the hive, and thus robbing is started where there would have been none had the bee-keeper been very careful to have no exposed sweets about the apiary at *any* time of the year.

This matter of *not exposing sweets at any time of the year* is one which could be profitably dwelt upon for a whole article, but without carrying it further, I wish to say that the first means looking toward the preventing of robbing is, to know the condition of each colony as regards its *numbers* before any really warm days come in the spring; for if any colony is weak in numbers that colony is almost sure to be robbed unless some extra precaution is taken.

Again, if a colony is queenless in early spring, that colony is almost sure to be robbed; and if robbing is once started on such colonies, a general row may be expected thruout the apiary. I make it a point to look at each colony some cool day in early spring to see how many spaces between the combs they occupy, the number of which is set down where I can see it at a glance, and the same thing is done with every colony before taking it from the cellar. Colonies occupying five spaces or above are called good colonies, and to such colonies I allow an entrance during the spring months three inches long by three-eighths deep, such entrance being amply sufficient for any colony (till young bees are hatching plentifully) after they have had their first or cleansing flight. A colony occupying only four spaces is given about two inches in length of entrance, while a colony which only occupies three spaces is closed down to an entrance only three-fourths of an inch in length. We read very often of the entrance being contracted so as to admit only *one* bee at a time, but whoever so contracts will soon find that trouble occurs by way of the dead bees which can not be drawn thru so small a space, thus clogging or stopping the entrance entirely.

If the cluster in any hive does not occupy three spaces, or these to a sufficient amount so I think it can care for what honey it has in the hive, then all the combs are taken away from it except one of honey and those which have brood in them, inserting a division-board and placing the comb of honey next to the side of the hive, and the comb or combs of brood next this. The division-board is now drawn up next to the comb of brood, while the entrance, of about the size of the smallest given above, is placed at the opposite side of the hive, so that the bees in going out and returning must travel over this vacant space between the division-board and the entrance. Fixt in this way a colony must be so weak that it is good for nothing if it does not protect itself from robbers, unless sweets are exposed so a general pilfering is establisht; for robber-bees do not like to travel over a long vacant space *inside* of a hive where they are liable to be seized by a sentinel at any time. Even weak nuclei, when fixt in this way, are rarely robbed with me, and the more I use it the better I like it.

If any colony is found queenless supply it with brood from some other colony until you can procure a queen for it, providing it has bees enough to allow it to care for itself. If it does not have plenty of bees, unite it with some small colony having a queen. If thru careless handling, or from any cause, robbing is started, I think the best thing to do first is to throw a sheet over the hive which is being robbed. Leave it for a half an hour, when it is to be suddenly lifted from over the hive so as to let the robbers out which have collected on the underside, and the bees from the colony which have been shut out go in. Replace the sheet for another half an hour, when it can be removed and a handful of dry grass or hay put over the entrance, and a handful of wet hay put over this. This will allow them to dwell in peace the rest of the day, as robbers do not like to crawl down thru wet hay, unless there are some coming out loaded with honey all the time, and you have stopt the loads of honey from coming out with the sheet before the hay was put on.

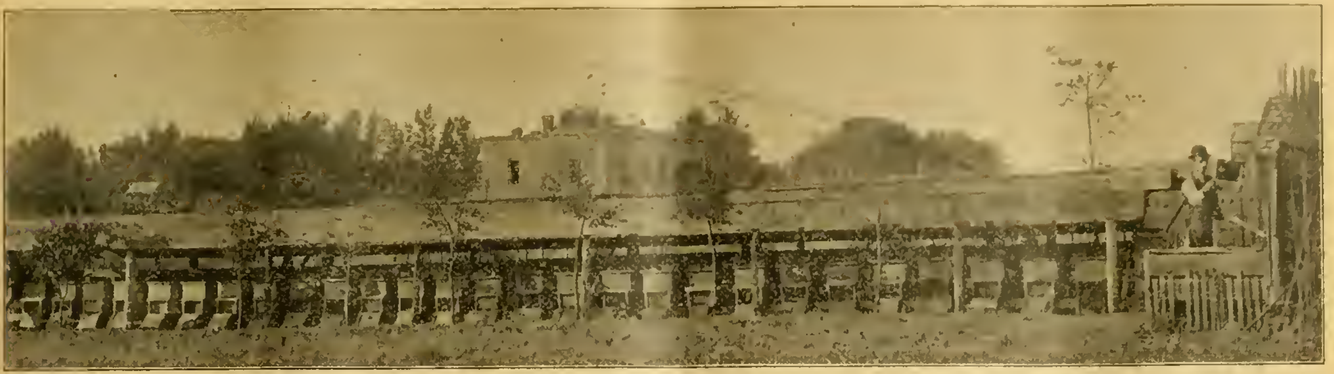
This course will stop the robbing of any colony that is good for anything where the entrance has been fixt as above; and, with one exception, if a colony will not care for itself the next day after being treated as here given, I would take the combs away from them, allowing the few bees to go with some other colony, rather than to run the risk of having the whole apiary demoralized by the bees taking the honey from the hive at some time when the apiarist was not present. The exception alluded to is where a colony may be very weak, but has a choice queen that we wish to save, but has no place to put her just at this time. Should this be the case, treat the colony to the sheet and hay as given above, and when night comes carry it to the cellar and keep it there till you can use the queen. If you are very anxious to build the colony up, and it is strong enough to live in the cellar till the outside bees can gather pollen or honey, it may then be set out and given some emerging brood to strengthen it; for after the bees secure the first pollen or nectar freely, the disposition to rob seems to leave them, very largely.

Onondaga Co., N. Y.

Bees, and Spraying Fruit-Bloom with Arsenites.

BY F. GREINER.

IN the States where bee-keepers are awake to their interests they have, I believe, succeeded in having laws past against spraying fruit-trees while in bloom. This they accomplish on the mere strength of their *belief* that bees would be and had been poisoned by visiting sprayed bloom. Positive proof that bees were ever poisoned was really lacking. But, as Prof. A. J. Cook says, "We spray potato-vines with poison, and the bugs disappear. We did not



Home-Apiary of Mr. James M. Hobbs, of Yankton County, South Dakota.

make a post-mortem examination to find out whether the dead bugs have Paris green in their stomachs, but are satisfied with the apparent result of our spraying, and the fact *that the bugs are gone.*"

We have taken the same ground in the case of bees. *The trees had been sprayed, and the bees have died as the result.* Many scientists, however, have not been satisfied with our opinionative proof. They refuse to accept what bee-keepers thought they had good reason to believe. The Ohio Agricultural Experiment Station has now publisht the experiments they have made in order to test the matter, and they hereby furnish the missing link in the chain of proof now available. How minutely and extensively the work was carried out may be judged from the few following facts:

Separate analyses were made of thorax, posterior legs, and abdomens of bees which were known (or at least strongly suspected) to have died from arsenical poisoning while working on the sprayed bloom. The bees were first washt in three different ammonia waters to ascertain whether any poison adhered to the bees' exteriors, and to remove such. In some cases slight traces of arsenic were found in the ammonia water. Thoraxes and also posterior legs, with the pollen adhering, analyzed gave *no traces of arsenic.* This is contrary to my expectations. I should surely expect the pollen to contain poison as well as the honey. In stored honey taken from nearly ruined colonies, no traces of arsenic could be detected; but the abdomens of bees analyzed revealed unmistakable traces of the poison.

In summing up, the station says: "We believe that we have the first conclusive proof of the effect on bees of the use of arsenical poisons in the orchard while trees are in bloom. We can see no other conclusion that can be drawn from the result of our experiments than that bees are liable to be poisoned by spraying the bloom of fruit-trees, the liability increasing in proportion as the weather is favorable for the activity of the bees; that all bloom must have fallen from the trees before the danger will have ceast."

The bee-keepers of our land owe the Experiment Station of Ohio a vote of thanks.

One more point I wish the station had not been silent on. I should like to know the whole truth. It would interest me to know how much of a crop these trees, sprayed while in bloom, bore as compared with the others not so sprayed. Our esteemed friend, E. T. Abbott, said at the Buffalo convention, that a fruit-blossom is so delicate it can not even bear a drenching of water, much less of Bordeaux or Paris-green mixture. If that is true, spraying it would necessarily and totally ruin the fruit crop, and no sensible fruit-grower would try that more than once. I, at the same time, gave expression to my view, that spraying the bloom might not prove to be so damaging to the fruit prospects, as it would be useless and unnecessary work. The Ohio Experiment Station should be in position to decide that point. If the fruit-grower could be made to believe that he would injure his fruit crop by spraying the bloom, then, of course, he would not spray. But I believe it is always best not to exaggerate, but stay within the limits of truth, if we know what that is.—Gleanings in Bee-Culture.

Ontario Co., N. Y.

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The Premiums offered this week are well worth working for. Look at them.

Wintering Bees—Managing Natural Swarming.

BY J. M. HOBBS.

By referring to the illustration herewith, it will be seen that my hives are all in one continuous line, resting on 2x4 joists, 14 inches apart, and one brick above the ground. These joists are spiked together with a cross-piece every six feet, so they are kept from canting or springing, and are all on a level, but one-half inch higher at the back. Two feet back of the row of hives is a row of posts eight feet apart. three feet in the ground, and five feet above the ground, and in a line with the hives. Then five feet in front of them, and in line both ways is another row six feet above the ground; then a cross-piece is nailed from one post to the other. This makes the pitch for the roof. The roof-boards are put on lengthwise, and shingled the same as any roof.

For the rear side I nail on six-inch fence-boards six inches apart; this lets the air pass thru in hot days in summer. I cut a gate out of the rear side to swing out, having three in the cut referred to. A gate makes it handy to manipulate at all times, as the operator is behind the bees.

My bees face the south, and the front is boarded down from the top just far enough to keep the hot sun from the front of the hives. Each hive has a slanting board in front for the bees to alight on, and the hives are eight inches apart, and each hive-front of a different color, while the hives are in about three different colors. and properly arranged on the stand.

In front of this stand all the ground should be as clean as a floor for a rod or so. I sweep all the dead bees away once a week; this prevents the ants and other pests from accumulating near the hives, and also makes it easy to find defective queens in swarming-time.

Now, as regards wintering: When the season is far enough advanced, say about November, I put the inside packing on, which is an empty super filled with chaff—wheat or oats, and fine and dry. I put a thin cotton cloth on the frames over the bees, then set the super on. I do not press the chaff, but put it in lightly. Under the cloth and on the frames I have a device something like Hill's, made out of barrel staves, which lets the bees pass over the frames, and works nicely. The hive-covers rest down over the hive about an inch. This completes the inside packing.

Then I fill in behind the hives and between them to their tops with dry straw; this leaves only two open spaces in the rear side of the bee-house, and these I stop by putting two more six-inch boards in between those already on; then all are ready for winter.

I have some old strips of carpet which I put in front of the hives, and in very bad, blowing snow-storms I let them down over the front of the hives. I leave a bee-space four inches wide open in front; when the weather is fine and I want the bees to have a flight, I turn up the carpet and put it down again at night.

In the spring I wait until the bees show signs of being well built up with young bees before I remove the packing, and take the inside packing off last, when ready to put on empty supers. I have had very good results by these methods.

Now as to my success with swarming: In the first place, I have, as you can see, nothing in the front of my bees but a very few low plum trees, so close to the hives that the bees will not alight on them when swarming. Everything that they could settle upon is what I improvise for them, so just before they begin to swarm, and after the leaves have begun to be on the trees, I make four or five holes in the ground about two rods or so along in front of my apiary, and some two rods apart. Then I select as many low, bushy trees with leaves on as I have holes dug. The whole secret comes in selecting and setting these "dummies," as I call them. First get them about three inches thru at the butt, and with as many branches as possible, and set each of them leaning towards the north, in such a manner that the bees will have a branch under which to cluster and hang down, and be in the shade. Now make these so enticing that a swarm can not withstand the temptation. Do not have the dummies over six feet high. Try to make each one a little more tempting than the last, and go as far as to have some one particular spot where you wish them to settle, so that it will be the handiest to sit and hive them.

This may seem all moonshine, but if you will follow the above directions you will find how soon you and your bees will begin to have the same liking.

After you have madet hese cozy little alighting-nooks, keep them up by adding green branches as the old ones wither, and it will be like fresh straw to an old hen's-nest. Leave the old bush, but add green boughs to where you expect to see the swarm settle. Practice makes perfect. I have done this way for many years, and I have had only one swarm to abscond in 20 years. I always endeavor to be around in swarming-time, and sometimes pitch a few handfuls of black coal cinders in towards the dummy I wish them to settle on, and they seem soon to catch my wishes, and down they go. So far this plan has been a perfect success with me.

I always have hives all ready with starters or old comb in the shade for all new swarms. All these hives have loose bottoms, and I have a mortar-board which I set on the ground under where the bees have settled, then put the hive on that with the cover off, lay a few green twigs on top of the cloth on the hive to keep the wind from blowing it off, and take a tin pan, and with a stick, slice a good part of the bees off into it, turn the cover or cloth back and empty the bees into the hive on top of the frames, place the cloth back, and lay the twigs on top, then slice off more bees, and pour them at the front of the hive. It may be well to urge them a little with a twig or a feather, but do what you do gently, and you will soon have them all in the hive. I first get them about all into the new hive, then I pick them up and put them on the stand where I wish them to remain. I always put a few green twigs on top of the new hive, and let them project out in front a little a day or so, until they are accustomed to the new location.

This is about all there is to be said in this direction. Perhaps these few explanations may be of some interest to some amateur bee-keeper, who may be situated similar to myself—inside the limits of a city of 4,000 inhabitants.

Yankton Co., S. Dak.

Advantages of Producing Extracted Honey.

Written for Northeastern Ohio and Northwestern Pennsylvania Convention,

BY B. W. PECK.

I WILL first tell how I manage my bees when working for extracted honey. First, I try to have all colonies strong by the first of June, or at the beginning of white clover bloom I see that all colonies have plenty of stores, leaving them packt until late in the spring, and by taking hatching brood from the strong and giving to the weak, crowding the weak colonies on as few combs as they can cover, etc.

When they are built up strong, and the weather is good, I unpack them. I prefer to have a little honey coming in when unpacking bees, as they are then better natured; also, there will be less fighting when they enter the wrong hive, which they will do more or less when unpackt, by changing the appearance of their home.

I now watch them closely, and as soon as the hive is full of bees and brood, and some honey coming in from white clover, I place a queen-excluder over the frames of the lower story (I use the Simplicity hive, holding 10 Langstroth frames), over which I place the super holding 10 full-depth frames of comb. After the lapse of a few days, if the season is good, some of the best colonies will need another set of combs.

The honey should be left on the hives until it is well ripened before extracting it. When it is extracted the combs are returned to the bees, ready for the fall crop.

I will here give one year's report to show the advantage of producing extracted honey in a *good* season:

I began the season of 1886 with 56 colonies. My recollection is that I got about 1,000 pounds of comb honey. My whole crop was 7,000 pounds for the season. Fifteen colonies were run for comb honey, and averaged 66⅔ pounds per colony; at 12 cents per pound it would be $8.00 per colony. Forty-one colonies were run for extracted honey, and averaged 143 2/11 pounds (at 8 cents per pound this would be worth $11.45 per colony).

Of course, the unfinisht sections were extracted, which would change these figures a little, but it will be seen that more than double the amount of extracted honey per colony was produced, or about $3.00 per colony in favor of the colonies run for extracted honey. But in moderate seasons the difference will not be so great.

When ready to extract, I try to have everything in readiness. I use a 4-frame Cowan extractor, which is placed on a bench about two feet high. I use an uncapping-can for the cappings. I have two ways of keeping hot water on hand for dipping the honey-knife in when uncapping, which is a great help. One way is to have a lighted gasoline stove near the extractor, with water on; and the other way is to have a lighted lamp in a box, with a hole in the top of the box, over which set a basin of water.

I have ready plenty of honey-pails with covers, most of which hold 25 pounds. When all is ready I proceed to the bee-yard with a wheelbarrow and empty super, and one super with empty combs, hive-cover or board, one or two turkey feathers, smoker, bee-veil, some cotton rags, matches, etc. When removing honey I first blow a little smoke in at the hive-entrance, then removing the covering from over the frames I pour a deluge of smoke down between the frames, until many of the bees are driven below. Then with a chisel I pry the super loose from the lower story, and lift it off on the hive-cover, and in its place I put the super of empty combs. I then loosen the frames of honey in the super, lift them one at a time, and give a quick jerk in front of the hive, which dislodges most of the bees; and bees remaining on the combs are brusht off with the turkey-feather.

I then place the combs of honey in the empty super on the wheelbarrow. When these combs are empty they are taken to the next hive to be extracted, and so on thru the yard, unless it induces fighting and robbing, when they are put on just before dark.

My better half usually assists me when extracting, uncapping while I turn the extractor crank, weigh the honey as extracted, etc.

In summing up, then, here are what I consider some of the advantages of producing extracted honey:

1st. The apiarist can manage more colonies.
2d. There will be less swarming.
3d. We will get more honey.
4th. Combs once built can be used indefinitely.
5th. Bees will work better in large combs than in small combs or sections.
6th. Much time is saved the bees in comb-building.
7th. It takes less skill to produce extracted honey than comb honey.
8th. Colonies that will do little or nothing in the sections many times will produce a fair crop of extracted honey.
9th. Extracted honey can be shipt with less damage than comb honey.
10th. It can be kept over from year to year with less damage than comb honey.
11. Last but not least, I find extracted honey sells better, being cheaper than comb honey.

In conclusion I will say that I have endeavored to point out *some* of the advantages of producing extracted honey. Now don't think from what I have said that I would advise all bee-keepers to produce extracted honey, for I would produce what my market demands, and which pays best. It will probably pay most bee-keepers to produce both comb and extracted honey. I always produce some comb honey.

Ashtabula Co., Ohio.

Honey and Some Honey-Plants Considered.

BY DR. G. G. GROFF.

POPULAR ideas are that all flowers alike produce honey, and that bees pass from blossom to blossom indiscriminately collecting the sweet fluid. This, however, is incorrect. By no means all flowers yield honey, and most of them yield it very scantily. Indeed, those plants visited by honey-bees which yield any considerable amount above that consumed by the bees from day to day are, in any one section of the country, limited to a very small number, and usually not more than one, or at most two, of these plants are in blossom at one time. There are, however, a good many flowers that yield some honey, yet are for various reasons not visited by honey-bees, among which we may name the honey-suckle (visited, however, sometimes for the pollen), and plants of the buttercup family. In some cases the honey-bees can not reach the honey, in others it is probably not palatable to them.

It is also true that there is a great difference in the amount of honey produced in different years by the same species of plants. Sometimes there seems to be almost no honey at all in white clover, while at other times honey is in the blossoms for a few days, and then it suddenly disappears, or, in other seasons, there is honey so long as blossoms of clover are to be found. The secretion of honey does not depend upon the season being moist, for usually the honey-"flow" is greatest in dry seasons. There does seem to be some connection between the amount of honey produced and the character of the soil upon which the plants grow. Thus, clover growing on clayey ground seems to yield more honey than that growing on hillsides where there is but little clay. The same is true of other plants. Often there is honey in one district and none in another not far distant.

The plants which yield "surplus" honey in ordinary seasons are the red and black raspberries, the white clover, the basswood, and the buckwheat. Some other plants may yield small additional quantities, but are hardly of practical importance. There are, however, some early spring flowers giving honey which is useful in stimulating brood-rearing in the hives, without which there is no hope of any surplus. We will first name some of these plants.

The practical bee-keeper knows that his hopes of obtaining honey all depend upon having his hives full of bees when the "flow" comes. Brood is produced in quantity only when some honey can be obtained from flowers then in bloom. Hence, the importance to the apiarist of the early-blooming flowers.

The willows of several species, and the silver and red maples, blossom in March and April, depending upon the season. They yield both honey and pollen, and whenever the days are warm enough the bees constantly visit them. If one is about his apiary on warm days in March and April, he will notice the bees coming in with pollen even at times when no flowers have been observed. At such times they have doubtless found blossoms on some warm bank, and are making good use of them. The poplar trees also bloom in April, a little later than the willows. Reference is here had to the true aspen poplars, not the tulip poplar. The dandelion and strawberry blossoms are much visited by bees. Later, about the first of May, we have the sugar-maple and the blossoms of the fruit-trees—the peach, cherry, plum, apple, pear, quince, and strawberries, etc. These all yield honey and pollen, but, as our seasons average, the honey from our fruit-trees goes altogether to stimulate brood-rearing. The locust trees (both the honey and the black locust) blossom after the fruit-trees and before the white clover. Surplus is seldom stored from these blossoms, tho they are good honey-producers. Their honey goes to produce more brood, or to feed the colony until the clover comes.

We next consider plants which produce surplus honey. These for the Atlantic States are few in number.

Of the plants which produce surplus honey the white clover is first named. This plant grows spontaneously thruout the whole region. In the well cultivated sections it is almost the only honey-producing plant left on which the apiarist can any longer depend. It begins to blossom in June, and continues on into July. The honey from this plant is the whitest and finest produced. It is entirely free from any peculiar or offensive taste or odor, and is a general favorite.

In the more northern States the red raspberry commences to blossom a little later than the white clover. This is a valuable honey-plant of which bee-keepers in the South are deprived. This honey is considered by many to be fully equal to that of the white clover. In July the basswood blossoms. This tree yields a great amount of honey, but unfortunately there are no longer many trees to furnish blossoms and nectar. This honey is darker than that from clover, and has also a peculiar odor, which is unpleasant to many persons.

The last plant of value as a honey-producer is buckwheat, which begins to blossom in August, and continues until frost. The honey from buckwheat is dark, and has a taste of its own which is not offensive. The honey is very rich, and a taste for it is speedily acquired. The cultivation of this plant is becoming, year by year, more restricted, and is now confined to the newer and more mountainous sections.

Those regions where the land is all under cultivation have only the white clover to depend upon for honey, unless there are a few basswood trees along the streams, while in the mountainous areas will be found clover, basswood, raspberries and buckwheat. It takes but a moment, then, to decide where one could best hope to succeed in bee-keeping.

We place among the plants which produce a small or variable amount of honey the mint and figwort families; also the asters and goldenrods. Of the first families, the mints, we have the hoarhound, the sage, bergamot, the catnip, and the motherwort, all producing considerable honey. Of this group the most remarkable is the motherwort (Leonurus cardiaca), which is constantly visited by bees while it is in blossom. The supply of honey is limited only by the number of plants, which at present in most places is small. It has been suggested that this plant be cultivated for the honey it yields. It is now a rather unsightly weed.

The figwort (Scrophularia nodosa) is an excellent honey-plant. It has a square stem, and exteriorly a good deal resembles the mints. It is a worthless weed except for its honey-producing flowers. It is not very abundant. The wild mustard, the teasel, the boneset, the wild sunflowers, the Spanish-needles and the snapdragons, as also the smartweeds produce some honey, tho in most places the total is of little value. In Michigan Prof. A. J. Cook holds the goldenrods in high esteem as honey-producers. In Pennsylvania the writer can not find that they are of any value at all. On newly cleared land the sumac springs up, and it is held by some to be a valuable source of honey, and that considerable amounts are some years collected from it.

The tulip poplar, popularly called "poplar," also produces honey in its beautiful large blossoms, but the tree is too scarce to be of much value to the bee-keeper. The blossoms of the blackberry, like their near relatives, the raspberries, are honey-producers. The milkweeds are also secreters of honey. Curiously, the pollen of these plants often sticks to the feet of the bees and disables them so much that they perish.

Prof. Cook says that at times the blossoms of the Indian corn yield both honey and pollen to the bees, but we think to no great extent. We have never observed the bees working on these blossoms.

The laurel (Kalmia) yields honey which is poisonous. Generally the bees do not work on these blossoms, but in some localities they do, and we frequently read of persons poisoned by honey which probably comes from this plant. It is thought that the poisoning of the Greek soldiers under Xenophon, was by honey from this family of plants, in this case from rhododendrons.

The plant-lice (aphides) which infest many plants secrete a sweetish fluid of which bees, ants and other insects are very fond. In season when real nectar is scarce, or altogether lacking, bees will collect and store this material, which is generally known as honey-dew or manna. There is, however, another variety of honey-dew which seems to be secreted by the leaves of plants, and is gathered by the bees. The material is hardly fit for human food, nor is it for bees either, and it is doubtless a principal cause of winter loss of colonies, for it produces in the bees a diarrhea from which they perish if the winter is one of continuous cold, so that they can not take an occasional cleansing flight. Cider, juices of grapes, and all other sweet fluids are collected and stored by bees in seasons of scarcity. The general bad effects of all these are the same as of the honey-dew—they produce intestinal disorders from which the bees die.

The profitable cultivation of plants, otherwise useless, for honey alone, has never yet been demonstrated, and the low price of sugar will probably preclude any such efforts in the near future. Honey will remain a luxury, and as such will be produced in favorable locations—that is, on poor soil, where the honey-plants grow naturally, and where the land can be utilized for nothing else. However, in the planting of shade trees it would be well to plant those which will produce honey as well as shade.

The effort is made by practical bee-keepers to find some plant, like the buckwheat, which may make a useful crop, and at the same time produce honey. Many think alsike clover will do this. Prof. Cook thus speaks of it: "Alsike or Swedish clover (Trifolium hybridum) seems to resemble both the red and the white clover. It is a stronger grower than the white, and has a whitish blossom tinged with pink. This forms excellent pasture and hay for cattle, sheep, etc., and may well be sown by the apiarist. It will often pay apiarists to furnish neighbor farmers with seed as an inducement to grow this par excellent honey-plant. Like white clover, it blooms all thru June into July. It should be sown early in spring with timothy, five or six pounds to the acre, in the same manner that clover is sown."—Popular Science Monthly.

QUESTIONS AND ANSWERS.
D^r C.C. MILLER

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Preserving Fruit with Honey.

1. How can I preserve fruit in honey, and not destroy the flavor of the honey? I have a good crop of both, and by putting together in good order it may enable me to find consumers that I would not otherwise. ALABAMA.

ANSWER.—I have seen it stated that all that was necessary was to put the fruit in the honey, making sure than it was entirely covered. A number of reports, however, say it was not a success, and it is a little doubtful whether it would be well for you to try it on a large scale. If any have succeeded, perhaps they will report.

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The Empty Hive Above or Below—Which?

In the "A B C of Bee-Culture" it advises putting the new hive at the top and the bees will move up. In a recent issue of the Bee Journal one of the correspondents advised putting the new hive at the bottom, and the bees will move down. Are they both right? If so, which will work the better, and how long a time will it take? ILLINOIS.

ANSWER.—Both are right. I prefer to put the added story under, if it is expected to be occupied as a brood-nest, as that loses less heat, and bees naturally extend downwards. It may take all summer, or only a few days, depending upon the conditions and the strength of the colony.

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Questions on Queen-Rearing.

1. If I deprive a strong colony of bees of their queen and all brood, and give them when they show signs of their queenlessness, some hatching eggs on the Alley plan, and feed them for 5 days a pint of honey, will bees prepared thus rear as good queens as under the Doolittle plan of queen-rearing? If not, why not?

2. Is there any other objection to queenless bees rearing inferior queens, than that of selecting too-old larvæ? If there is not, then by giving them just hatching eggs we do the selecting and are on the right side in this point.

3. I have tried the Doolittle plan, and somehow the bees won't do much other than tear up the cells even after started by queenless bees. ILLINOIS.

ANSWERS.—1. I do not know any reason why they should not. But there is a chance also for them to rear some not so good, for they may treat some of the cells as workers till the larvæ are quite cold, then conclude to rear queens of them, while with the Doolittle cups the cells will be treated as queen-cells from the start. They will in no case be treated as workers, for if the bees are not willing to treat them as queens they will empty the cells. Feeding a pint of honey will probably do no good, if the bees are gathering. If you prefer to use the Alley plan, it may be well to guard against poor queens in this way: After giving the cells, and at a time when you think no larva is more than a day old, take out the cells and destroy the larvæ in any cells that have not already been enlarged by the bees.

2. I think you are mistaken on both points. I do not think bees select larvæ too old when they have younger present. Neither are you "on the right side" if you give just hatching eggs, or even eggs just laid, unless you guard against some of the poor queens you are sure to have. For bees don't start queen-cells only in the first 24 hours, but continue to start them for several days, and some of the last started will be from larvæ too old. You may be on the safe side if you give them just hatching eggs, then 48 hours later stick in a wire-nail over every queen-cell started, and at the last use only the cells you have thus markt. And in my judgment you will be just as safe to give them eggs and brood in all stages, if you take the same precaution.

3. I suppose you mean you have had cells started by queenless bees, and then had them destroyed when put over an excluder over a colony with a laying queen. That would probably have been the case with any kind of cells you gave, even if you had given cells from a swarming colony. The weather may have had something to do with it, and there is a difference in colonies. Some colonies will do better with cells put over an excluder than others. Over some colonies cells will be started if you give them brood, while others at the same time will tear down cells already started. Cells will be more kindly treated over a colony with a queen old enough to be superseded than over one with a vigorous young queen.

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Bees Not Working in Supers.

I had 11 colonies in the spring, and have had 9 swarms; 3 of the old colonies have filled 2 supers each, and are working on the third; 2 have filled 1 super each, and others are doing nothing in supers. All are strong, but don't work early nor late. Would you change queens, or what is the trouble? The swarms are doing well. The bees are hybrids except 2 colonies of Italians from brag stock, and they are doing nothing worth speaking of. MARYLAND.

ANSWER.—It is not an easy thing to tell just what is the trouble without being on the ground. It is possible that one colony may have more to do than another in the way of filling up its brood-combs. Try this: Take from one of the colonies at work in supers a section well started or half filled, bees and all, and put in the super where the bees are doing nothing in sections. That will start them if anything will. If a strong colony in bees is doing nothing in supers when others are on their third super, and if they have appeared of equal strength all the time, you may do well to give a different queen.

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Italian-Black Bees for Honey.

What race of bees are those you furnish the American Bee Journal as premium queens? TEXAS.

ANSWER.—They are Italian with a mixture of black blood. I prefer beautiful yellow bees, if they do just as good work, but my best honey-storers have proved to be among those having some black blood. There is an objection to breeding from anything but pure stock. A cross of any kind is not so sure to perpetuate itself. Pure Italian stock will furnish queens that vary very little from the mother. A cross will not produce queens so uniform. Some will be better than the mother, some worse. But stock from a cross-bred queen that has given an extra record for honey-storing may average better than that from a pure-bred queen. So, on the whole, I think I get more honey by breeding from a queen that has given a very high record, even if there is some black blood present.

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Royal Jelly, Queen-Cups, Etc.

I have failed so far to conceive what royal jelly is, and how it is obtained. How is it inserted in the queen-cells? and what quantity is used? How are cells fastened in the combs? Can we purchase the Doolittle cell-cups ready "primed" for inserting into the combs? KENTUCKY.

ANSWER.—The nurse-bees prepare a concentrated food for the very young larvæ that is fed to them for 3 days, when the larvæ are weaned, as it is called, a coarser food being given them. Larvæ intended for queens, however, receive this highly-organized food during the whole of their larval existence, and receive it in large quantity. The rations of a worker larva are very carefully measured out, just exactly the right amount, no more, no less. To a larva intended for a queen, the food is given in such large quantity that considerable is left in the cell after the young queen emerges. Royal jelly does not look like jelly at all, when fed to the young queen (more like a mixture of flour and milk boiled together,) but what is left in the cell after the young queen leaves it is dried down and has a somewhat translucent appearance like jelly, hence the name.

Very likely Doolittle cell-cups will be shortly put on the market, as they can be made by wholesale by those who have the proper facilities, but it is not likely you can ever buy them "ready primed," for inserting in the comb. A small quantity of royal jelly (twice the size of a pin-head or more) is put into the cell-cup, then the little larva is put in, and the cell given to a queenless colony, or to a strong colony having a queen, in the latter case in an upper story over an excluder. These cells ready primed could not be kept on sale, for the jelly would dry up and the larvæ die in a short time.

The only way to obtain royal jelly is to get it from queen-cells in which the bees are rearing young queens. These may be found in any colony preparing to swarm, or that has just swarmed. It must be taken from cells not yet sealed. If no swarming colonies are at hand, a colony can be made queenless, and it will then start queen-cells.

For some, it will be easier to get queen-cells from a colony that has swarmed. Cut out the cell with a thin, sharp knife-blade, and fasten it on the side of a comb where it will be right in the center of the cluster of bees. A hole may be cut in the comb and the cell fastened in, but a better way is to use a tobacco-staple. Lay the cell against the comb, point downward or partly so, push in the points of the staple, letting the cell be not in the middle of the staple but at one end, pushing well into the comb the point farthest from the cell.

A tooth-pick may be used to transfer the jelly and the young larva. Use only the smallest larvæ.

Sowing Alsike Clover Seed.

Will alsike clover do well if sown after oats harvest, say in July or after? If so, what time would you advise sowing it, and where can I get seed? ILLINOIS.

ANSWER.—I have some doubt about it, but ask some farmer in your neighborhood whether it will do well to sow *red* clover at that time, and act accordingly. You can order seed from George W. York & Co.

Uniting Bees—Ripening Honey—Ants and Bees.

I had 3 swarms from a single colony on the following dates: May 29, June 6, and June 8. All are good-sized swarms, the second especially so. I was a few hours too late with an Alley trap to head off the queen of the third swarm which I wisht to prevent. Not having an extra hive, I "hived them" very nicely in a large butter-tub, turned upside down, and they have taken to it and are working well.

1. If I put the tub of bees above the frames of swarm No. 1, with a Porter bee-escape and board between, not having killed the queen, will they probably unite without quarreling, at this season?

2. I have noticed many allusions in the columns of the Bee Journal to the "ripening" of the honey by the bees. Please tell how long it takes them to ripen it, or is it ripened as soon as sealed?

3. In what does this "ripening" by the bees consist?

4. Is there any occasion to fear the depredations of any kinds of ants about bee-hives, or will the bees take care of them? BOSTON.

ANSWERS.—1. Very likely there will be no quarreling, but whether the bees will all come into the hive in reasonable season is a question. If they do not, you can drum out the remainder, leaving the bees to settle the matter of a queen.

2. The time of ripening is not uniform. In dry, hot weather, with a scant flow, it is ripened almost as fast as gathered. As a rule, honey is ripe when sealed, but there are exceptions.

3. I don't know. It is partly in evaporating the water, but there seems to be a richness gained by allowing honey for some time in the care of the bees that is more than mere thickening.

4. As far North as you are, you have little to fear from ants. If you do not use quilts, and have board covers that allow a bee to go wherever an ant can go, the bees will keep the ants out. There is, however, a large wood ant, which fortunately does not seem to be very plenty, that sometimes honeycombs the bottoms of hives, leaving a mere shell outside—somewhat dangerous in the case of those who move bees to and from out-apiaries.

Eggs of a Virgin Queen.

I got into a little argument with a friend about the question on page 327, in regard to a virgin queen laying eggs which would hatch drones. Will you kindly answer the following:

If, as you state on page 327, eggs of a virgin queen will hatch drones, are we then to infer that the queen-bee is an hermaphrodite? If not, are we to expect that a virgin pullet's eggs will hatch roosters?

ANSWER.—About half a century ago, Dzierzon aroused fierce antagonism by making the startling assertion that an unimpregnated egg laid by a bee could produce a living being. The correctness of his position, however, has been firmly establisht, and scientists today do not dispute the fact. An unimpregnated egg laid by a queen will produce a bee, but always a drone. An unfertilized queen's eggs and those of a laying-worker can produce only drones. These are the facts that have been proven over and over again (in the case of laying workers much to the sorrow of many a bee-keeper), yet they would hardly justify you in calling the queen a hermaphrodite. Neither are we justified in thinking that the same rule would hold with pullets, any more than we would be in saying that because a single act in meeting the drone is effective for life that the same would hold with a pullet.

Queen-Laying Irregularly—Swarming, Etc.

1. I got two queens from Mississippi the first of May. One is all right and the other looks as nice but has not more than two frames of brood, and she lays from 1 to 6 eggs in a cell—an average of about 3 to the cell. Do you think she will get regular, or would I better dispose of her? She does not deposit the egg every time she goes into a cell, but will drag it about, leaving it on top at times.

2. Yesterday I had two swarms at once; they clustered together, so I put them all in one hive. This morning I lookt in and found one queen balled, so I caught and caged her, the other one was free. Was that proper, or should I have divided them when I hived them?

3. I found two queen-cells in a light colony last week, thinking they meant to supersede the old queen, and as she was dark I went to a hive which had swarmed a few days before, cut out a queen-cell almost ready to hatch, and then cut out the two mentioned, and put this one in place. Today I saw her on one side of the frame and the old one on the other side. Is not that way all right to Italianize, if they dispose of the old queen? NEBRASKA.

ANSWERS.—1. It is sometimes the case that after being thru the mails a queen is so demoralized as to make bad work in laying, and then straighten out afterward. Give her a fair trial before displacing her.

2. If you want increase, it would have been right to have divided the bees, giving to each division a queen. If you are after honey, and if your harvest closes early, you may get more honey by having all the bees in one hive.

3. You did a good thing.

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AMERICAN BEE JOURNAL
ESTABLISHT IN 1861 OLDEST BEE-PAPER IN AMERICA
DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS

PUBLISHT WEEKLY BY
GEORGE W. YORK & COMPANY,
118 Michigan Street, Chicago, Ill.

[Entered at the Post-Office at Chicago as Second-Class Mail-Matter.]

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The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "Dec00" on your label shows that it is paid to the end of December, 1900.

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VOL. 40. JULY 5, 1900. NO. 27

EDITORIAL COMMENTS

NOTE—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

The Need of a Text-Book on Bee-Keeping.—A correspondent, in sending in a number of questions, stipulates that he shall not be referred to a dollar-and-a-quarter text-book, as he reads the American Bee Journal and another good bee-paper. Which is probably equivalent to saying that he has no text-book, and should not be askt to get one. Our good friend is standing very much in his own light. Altho earnest effort is made to send out every week a bee-journal that shall be excelled by none in the world—one which shall be of value to the veteran and the beginner, so good indeed that it shall be felt indispensable—yet there need be no hesitation in saying that one who has no text-book will do well to dispense with its weekly visits for a year or more, if that is the only condition on which he can obtain a text-book.

The department of "Questions and Answers" has its purposes and limitations. It can not be expected to fill the entire place of a text-book. A text-book is supposed to contain answers to all the questions that will be askt by every beginner in bee-keeping, and many of those askt by those of riper experience. Now suppose it should be understood that the purpose of "Questions and Answers" was to give all the information needed by each new subscriber, so that he should need no text-book. Keep in mind that each week new subscribers are added to the list. One who has just begun sends in the question, "Is it the old or the young queen that goes off with the swarm?" A week or two later, a new comer who has not seen previous numbers, asks the same question, and as each week brings in more recruits, the question appears again and again, "Is it the old or the young queen that goes off with the swarm?" Naturally the one who first askt the question would feel that such a question should have a long vacation, and that the space thus occupied should be filled with something a little more fresh. As there are hundreds of questions that each beginner has a desire to have answered, if all should depend entirely on "Questions and Answers" for the information needed, each number of the American Bee Journal would be crowded with such matter, and after the first year or so each reader would feel there was nothing worth his time to read, after having already read it so many times.

"Of what use then is the department of 'Questions and Answers' if one can not ask for the information he needs?" One *can* ask for the information he needs, and after having carefully studied a text-book he will still find plenty of questions to which he desires answers. New things are constantly coming up which have not as yet found their way into the text-books. Some things in the text-books may be a little hard to understand, and a little side-light will help. One will have difficulty at one point, another at another. After a careful study of what is contained in the text-book, no one need hesitate to ask any question that troubles him. But if any one should think that he should find answered in "Questions and Answers" everything he desires to know as a beginner, he will himself plead most earnestly to be protected from such questions and answers in the future, after they have become ABC to him.

An Experimental Station has been establisht by W. Skarytka, in Schletz, Austria, where any one can send bees, hives, etc., for trial and comparison without charge for such trial, providing all are sent prepaid. Here's a chance for several would-be American inventors to have their "ideas" tested.

The Chicago Convention of the National Bee-Keepers' Association meets the last week in August, as will be noted by the following from Secretary Mason:

EDITOR OF AMERICAN BEE JOURNAL:—

Please allow me to remind the readers of the American Bee Journal that the next convention of the National Bee-Keepers' Association is to be held in Chicago, Ill., on the 28th, 29th and 30th of August next, commencing Tuesday evening, the 28th, at 7:30 o'clock.

The sessions will be held in Wellington Hall, No. 70 North Clark St., about a block and a half from the Bee Journal office, and about five blocks directly north of the Court House. The hotel at which members can secure lodging, etc., is the Revere House, southeast corner of Clark and Michigan Sts., only one-half block from the hall. Rates of lodging will be 50 cents per night, and several will have to occupy one room. To many bee-keepers this will be an "added attraction," especially as they will have good beds to sleep on, as Mr. York has been assured by the hotel proprietor. It may be possible that this hotel will not be able to accommodate all of the bee-keepers, altho the proprietor will do his best to see that it does. Each one attending the convention should secure a lodging-place as soon as possible after arriving in the city. There is usually no trouble in getting enough to eat at reasonable rates.

The program for the convention will be different from what it has usually been. There will not be to exceed one paper at each session, and the remainder of the time will be occupied in the asking, answering, and discussion of questions. The question-box will be in charge of such veterans as Dr. C. C. Miller, of Illinois; Rev. E. T. Abbott, of Missouri; D. W. Heise, of Ontario, Canada; C. P. Dadant, of Illinois; R. L. Taylor, of Michigan; O. O. Poppleton, of Florida; and the editor of the American Bee Journal.

On Wednesday evening the editor of Gleanings in Bee-Culture will give an "Illustrated stereopticon talk on bee-keepers I have met, and apiaries I have visited."

The papers will be from such noted ones as Thos. Wm.

Cowan, of London, England; Dr. Wm. R. Howard, of Texas; Mrs. H. G. Acklin, of Minnesota; S. A. Niver, of New York; Herman F. Moore, of Illinois; and R. C. Aikin, of Colorado; and if you want to know what the papers are about, and assist in the discussion and enjoyment of the questions, please report in person at the above mentioned hall at the time indicated.

I have been unable as yet to learn what the railroad rates will be, but they probably will be as heretofore—one fare for the round trip from some localities, one and one-third from others, a cent a mile each way in the Central Passenger Association territory, or one fare for the round trip. The exact rate may be learned by inquiring at any railroad station. A. B. Mason, *Sec.*

P. S.—Say, Mr. York, it has occurred to me that you might be willing to help delegates to secure lodging-places, if they would ask you to. A. B. M.

Yes, we will be glad to do what we can toward securing lodging-places for those who will notify us a sufficient time in advance of the meeting. Already several have requested it. We think the Revere House will be able to care for one hundred or more, and likely the balance of the convention can secure lodging thru their friends and acquaintances residing in Chicago, aside from ourselves. Please do so if you possibly can, as we will likely have all the applications we shall be able to place.

There is an excellent restaurant, with reasonable charges, adjoining the hall, where doubtless most of the members will get their meals. The best part of a convention is the time between sessions if as many as possible can be kept from getting scattered. That is one reason the committee tried to secure hall, hotel and restaurant accommodations all within a half block of each other.

Australian Honey-Plants seem to be largely trees. A list of names of honey-bearing plants or trees in that region sounds strange to American ears. Among them, as recited in the Australian Bee-Bulletin, are bottle-bush, ti-tree, pepper-tree, flooded-gum, mahogany, bloodwood, red-gum, spotted-gum, white-gum, blue-gum, water-gum, black butt, tallow-wood, white-box, and stringy-bark.

Editor Tipper says lucerne (alfalfa) does not yield honey generally till its third year. If that is the case in this country, it has not been reported generally.

The great heat of the sun in Australia is likely to dry up white clover so as to lessen its value as a honey-plant.

California Bee-Men Organize.—Not long ago there appeared in the Pacific Rural Press a report that the bee-keepers of the San Joaquin valley, recognizing the advantage arising from co-operation, met in Selma, Fresno county, March 12, 1900, and formed a State organization under the State law of 1895, whereby each member has but one vote, whether he has 10 or 1,000 colonies.

The qualification for membership is the ownership of 10 or more colonies of bees and a compliance with the constitution and by-laws of the organization. There is a membership fee of $2.00, and no dues nor assessments. The organization will be known as the California Bee-Keepers' Association. It is hoped to get every bee-keeper in the State to join.

The object is to run the business along the same lines as the raisin-growers, adopting their by-laws as nearly as practicable, and if they can succeed in getting 60 percent of the bees in any county or locality subscribed there will be a district formed in that county, and conducted the same as the prune or raisin growers manage their affairs.

The following were elected temporary officers: J. P. Johnston, president; M. A. Gilstrap, secretary; J. W. Payne, treasurer; J. P. Johnston, J. F. Crowder, J. W. Payne, B. D. Vanderburgh and W. M. Grimes directors. M. A. Gilstrap was chosen secretary of the board, and B. D. Vanderburgh corresponding secretary. Messrs. Johnston, Payne and Crowder constitute the executive board.

The above information was furnisht by Corresponding Secretary B. D. Vanderburgh.

To Our Foreign Subscribers.—It seems to be necessary again to inform our foreign subscribers that any offers we make in the bee-papers of this country do not apply to any country outside of the United States, Canada and Mexico. This will be self-evident to any one who stops a moment to think, on account of the extra postage. For instance, a subscriber in Jamaica sent us $1.00 for a new subscription, and expected us to send the Bee Journal for one year to the new subscriber, and a Dr. Miller queen to himself as a premium for sending the new subscriber. Our queen offer does not apply to any country outside of the three named, and the Bee Journal sent to Jamaica for one year is $1.50 alone.

Whenever we receive any money from foreign countries it is *all* applied on subscription to the Bee Journal at the regular foreign rates, so that full value is always given in return for the amount sent us.

The Weekly Budget

Dr. A. B. Mason, of Toledo, Ohio, Secretary of the National Bee-Keepers' Association, writing us June 23d, has this to say:

"There has been no surplus honey here since fruit-bloom, and some colonies have had to be fed to keep up brood-rearing. Sweet clover is just beginning to bloom, and white clover is past its prime."

* * * * *

Mr. John P. Weibler and Miss Marguerite Wehling were married at Glen Ellyn, Ill. (the home of the bride), Tuesday, June 19, 1900. Many of our readers will recognize Mr. Weibler as the young man in our employ who has the principal charge of the bee-supply department and its patrons. He has been with us continuously, in various capacities, since the spring of 1892, and has been faithful, efficient, sober and industrious. All who know "John" will unite with us in hearty congratulations, and wish both him and his wife a long and happy life.

* * * * *

Hon. Eugene Secor, of Forest City, Iowa, General Manager of the National Bee-Keepers' Association, returned home the latter part of June, after a six-weeks play-spell in the East. No doubt there are many of his correspondents who have been getting anxious to hear from him during his absence. Such undoubtedly have received prompt attention since his return home. Mr. Secor simply dropt all business, and but few letters were forwarded to him while he was away. Of course, he made arrangements before leaving so that nothing should suffer very seriously. He reports that while he was absent from home his bees had it all their own way, and that when he came back to them "they evidently needed a director."

Mr. Secor wrote us, June 22d, that he was all right again, and ready for business at the old stand.

York's Honey Calendar for 1900 is a 16-page pamphlet especially gotten up to create a demand for honey among should-be consumers. The forepart was written by Dr. C. C. Miller, and is devoted to general information concerning honey. The latter part consists of recipes for use in cooking and as a medicine. It will be found to be a very effective helper in working up a home market for honey. We furnish them, postpaid, at these prices: A sample free; 25 copies for 30 cents; 50 for 50 cents; 100 for 90 cents; 250 for $2.00; 500 for $3.50. For 25 cents extra we will print your name and address on the front page, when ordering 100 or more copies at these prices

H. G. Quirin, the Queen-Breeder,
Is as usual again on hand with his improved strain of
GOLDEN ITALIAN QUEENS.

Our largest orders come from old customers, which proves that our stock gives satisfaction. We have 12 years' experience in rearing queens, and if there is any one thing we pride ourselves in, it is in sending all queens promptly BY RETURN MAIL. We guarantee safe delivery.

Price of Queens after July 1.	1	6	12
Warranted	$ .50	$ 2.75	$ 5.00
Selected warranted	.75	4.00	7.00
Tested	1.00	5.00	9.00
Selected tested	1.50	8.00	
Extra selected tested, the best that money can buy	3 00		

Address all orders to
H. G. QUIRIN, Parkerstown, Erie County, Ohio.
(Money Order Office, Bellevue, O.)
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IF YOU WANT THE
BEE-BOOK
That covers the whole Apicultural Field more completely than any other publisht, send $1.25 to Prof. A. J. Cook, Claremont, Calif., for his
Bee-Keepers' Guide.
Liberal Discounts to the Trade.

Here we are to the front for 1900 with the NEW
CHAMPION CHAFF-HIVE,
a comfortable home for the bees in summer and winter. We also carry a complete line of other SUPPLIES.
Catalog free. R. H SCHMIDT & CO.
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BEE-SUPPLIES!
Root's Goods at Root's Prices
POUDER'S HONEY-JARS and everything used by bee-keepers. Prompt Service—low freight rate. Catalog free. WALTER S. POUDER,
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Located on the Illinois Central R.R. in
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And also located on the Yazoo & Mississippi Valley R R. in the famous
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of Mississippi—specially adapted to the raising of
CORN AND HOGS.
Soil Richest IN THE World.
Write for Pamphlets and Maps.
E. P. SKENE, Land Commissioner,
Ill. Cent. R.R. Co., Park Row, Room 413,
24A24t CHICAGO, ILL.
Please mention Bee Journal when writing.

BEEDOM BOILED DOWN

Improvement of Stock is something that almost any bee-keeper, almost anywhere, can work for with fair hopes of success. Much has been said regarding the improvements that have been brought about in cattle, sheep, poultry, plants, etc.; it must not be forgotten, however, that many of these improvements have come about as the result of care, food and shelter. The long horns and sinewy muscles of the ox are no longer needed in defending himself against the attacks of wild beasts. Care, and shelter, and food, eventually make an animal or plant less able to battle for life with the forces of nature. At the same time these changes in the animal or plant make it more desirable for man. The battle with nature made the animal or plant less desirable for man's use. Battling with nature has brought out and developt in the *bee* those very characteristics, hardiness and honey-gathering, that are the most valuable to man. Chaff hives and warm cellars, and the like—this "coddling," so to speak—has not improved the bee. At the same time there is no disputing that there is a difference in bees, and that by crossing and selection, and breeding in the right direction, we can improve them; but we must understand what we are working for, and work intelligently.—Bee-Keepers' Review.

Reformed Spelling seems to be attracting attention on the other side of the globe. In the Australasian Bee-Keeper, Hitter having spoken disparagingly of it, G. R. Harrison comes to the rescue in this vigorous fashion:

That Hittite Hitter falls foul of the Yanks who are trying to get rid of a little confusion in our methods of making language visible, and are adopting reformed methods of spelling. We use in writing the language some 49 sounds, which we represent in a hazy sort of way by 26 signs or letters, two of which can be eliminated, as other signs are also used for the same sounds, one of which (c) is used for two different sounds (k and s), and we are therefore always gloriously uncertain which sound it is intended to stand for.

Over 20 of the 49 are vowel sounds, and are represented by five signs, tho a couple more are occasionally borrowed (a e i o u and sometimes w and y), and these five signs are used on no special principle, thus, not only are there some half-dozen "a" sounds, but the "a" sign stands occasionally for "e, i, o and u," which makes our rules for writing language clear as mud, doesn't it?

We have excellent and easily learnt rules for the use of these signs, but it takes a lifetime to learn the exceptions to these rules, so we don't spell by rules, but have to make the spelling of each word a special effort of memory. *We can't pronounce a word as it is spelt, because there are no rules govern-*

Sharples Cream Separators: Profitable Dairying

The Queen Crank
Is before the readers of this Journal with a petition for orders for as fine Queens as he has ever been able to rear. They are being, and have been for some weeks, reared in triple-decker 10-frame hives, from choice Golden and Three-Band Mothers, in a Golden yard. The Bee-Keepers' Review, of Flint, Mich., for May (which is a special queen-rearing number) tells how it is done. Ask for a copy. Tested, $1.00; untested, 75 cents. Money order office, Warrenton, N. C. W. H. PRIDGEN,
24Atf Creek, Warren Co., N.C.
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DITTMER'S FOUNDATION Wholesale and Retail
This foundation is made by an absolutely non-dipping process, thereby producing a perfectly clear and pliable foundation that retains the odor and color of beeswax, and is free from dirt.
Working wax into foundation for cash, a specialty. Write for samples and prices.
A full line of Supplies at the very lowest prices, and in any quantity. Best quality and prompt shipment. Send for large, illustrated catalog.
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Beeswax Wanted.
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PATENT WIRED COMB FOUNDATION
Has no Sag in Brood-Frames.
Thin Flat-Bottom Foundation
Has no Fishbone in the Surplus Honey.
Being the cleanest is usually workt the quickest of any foundation made.
J. A. VAN DEUSEN,
Sole Manufacturer,
Sprout Brook, Montgomery Co., N.Y.

Yellow Sweet Clover Seed
WE HAVE IT AT LAST!
We have finally succeeded in getting a SMALL quantity of the seed of the YELLOW variety of sweet clover. This kind blooms from two to four weeks earlier than the common or white variety of sweet clover. It also grows much shorter, only about two feet in hight. It is as much visited by the bees as the white, and usually comes into bloom ahead of white clover and basswood. We offer the seed as a premium
A QUARTER POUND FOR SENDING ONE NEW SUBSCRIPTION.
So long as it lasts, we will mail a quarter pound of the seed to a regular paid-up subscriber who sends us ONE NEW subscriber for the American Bee Journal one year, with $1.00; or ¼ pound by mail for 30 cents.
We have been trying for years to secure this seed, and finally succeeded in getting it. It is new seed, gathered last season by an old personal friend of ours, so we know it is all right. But we have only a small supply. When nearly out we will mention it.
GEORGE W. YORK & CO.,
118 Michigan St., - CHICAGO, ILL.

If You Want Bees
That will just "roll" in the honey, try Moore's Strain of Italians, the result of 21 years of careful breeding. They have become noted for honey-gathering, whiteness of cappings, etc., thruout the United States and Canada.
Warranted Queens, 75c each; 6 for $4 00; 12 for $7.50. Select warranted, $1.00 each; 6 for $5.00; 12 for $9.00. Strong 3-frame Nucleus with warranted Queen, $2.50. Safe arrival and satisfaction guaranteed. Circular free.
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For Sale! 50 Good Colonies
of Italian Bees, in Langstroth Movable-Frame Hives. F. Sauter, Schwab Davidson Co., Tenn.
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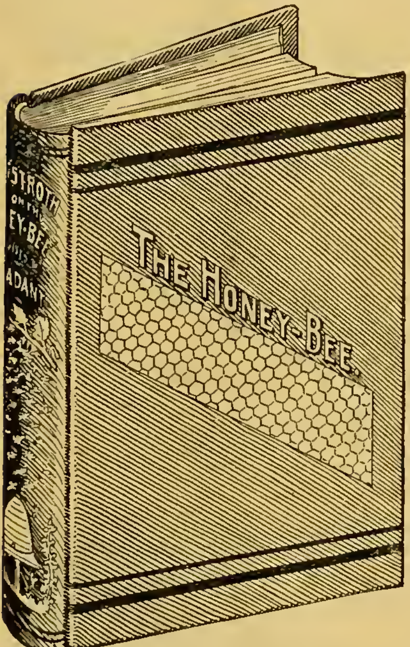
Langstroth on...
The Honey-Bee

Revised by Dadant—1899 Edition.

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains over 500 pages, being revised by those large, practical bee-keepers, so well-known to all the readers of the American Bee Journal—Chas. Dadant & Son. Each subject is clearly and thoroly explained, so that by following the instructions of this book one cannot fail to be wonderfully helpt on the way to success with bees.

The book we mail for $1.25, or club it with the American Bee Journal for one year—both for $1.75; or, we will mail it as a premium for sending us THREE NEW subscribers to the Bee Journal for one year, with $3.00.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THE HONEY-BEE.

This is a splendid chance to get a grand bee-book for a very little money or work.

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MARQUETTE, ON LAKE SUPERIOR,

is one of the most charming summer resorts reacht via the Chicago, Milwaukee & St. Paul Railway.

Its healthful location, beautiful scenery, good hotels and complete immunity from hay fever, make a summer outing at Marquette, Mich., very attractive from the standpoint of health, rest and comfort.

For a copy of "The Lake Superior Country," containing a description of Marquette and the copper country, address, with four (4) cents in stamps to pay postage, Geo. H. Heafford, General Passenger Agent, Chicago, Ill.

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ing the spelling and pronunciation. Therefore, we should go a long way better than our Yankee friends, and adopt a proper code of signs for the language such as is given to us by Mr. Isaac Pitman, in his Phonotype and Phonograph, where the principles of one sign one sound, and one sound one sign are carried out. The English language is very good, and will grow better; it has evolved from inarticulate barks and grunts, and become a means of interchanging abstract ideas of infinite beauty and delicacy; the language will become more perfect yet, but we certainly require an improvement in the means of recording it. I've seen an improvement in my time, and our children and their children will perfect it.

Getting Rid of Ants.—I once purchast a lot of bees that the owner assured me he would brimstone unless I bought them, as they drove him off his place. On examining them I found one of the stands had half of its combs filled with the large black wood ants. As the combs were "fixt and immovable," I turned the hive upside down, dusted Persian insect-powder freely among the ants, and then closed the hive for a few minutes, when I reverst it, and in a few minutes had the pleasure of seeing the bees carrying out the dead ants. I had no further trouble with that colony. I irrigate the ground on which my hives stand, and in consequence the ants are driven to the hives. They never enter the combs, but seek the spaces between the sections where the bees can not reach or glue them out. I have tried placing a ridge of insect-powder around the hive. While the bees do not seem to be affected by it, the ants avoid it for several days until it has lost its strength, when they remove it. A chalk-mark will prevent the passage of ants as effectually as a barb-wire fence will cattle; but the ants will remove the chalk, a particle at a time, until they have a passage thru it, just as rats will pack glass, when placed in their holes, till it is all removed.

The best way to exterminate ants is to make a mixture of arsenic, Paris green, London purple, or strychnine, with syrup or honey. Put this in a dish, and the dish in a box, with the

Leather-Colored Queens!

Reared from a superior honey-gathering strain of Italians. No disease of any kind. Untested, 50 cents each; dozen, $5.75. Tested, 75 cents each; ½ dozen, $4.25. Special low price on two-frame Nuclei for July and August. Safe arrival.

W. J. FOREHAND,
19D12t FORT DEPOSIT, ALA.
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Queens 5=banded QUEENS

Yellow all over—75 cents each; after June, 50 cents each.

By this my friends will see that I have moved from Falmouth, IND., to Merigold, Bolivar Co., MISS., where I am making a specialty of rearing the BEST Queens from the best strain of bees that can be found in this country.

Remit by postal or express money order, and address all letters to

DANIEL WURTH,
25D Merigold, Bolivar Co., Miss.
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California Queens.

OF PURE ITALIAN STOCK.
(THREE-BANDED.)

No other bees within a radius of TEN MILES. Eight years' experience in practical bee-keeping. Untested Queens, 90 cts. each; $9 per doz. Discounts after July 1. Write for price-list.

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EGGS From Barred PLYMOUTH ROCKS Thorobred, Fine Plumaged Fowls. Farm Raised—75c per dozen.

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with our new patent
KEROSENE SPRAYERS
is simple indeed. Kerosene Emulsion made while pumping. 12 varieties sprayers. Bordeaux and Vermorel Nozzles, the World's Best.
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QUEENS!

One Untested Queen.....	$ .80
One Tested Queen	1.00
One Select Tested Queen	1.25
One Breeder...............	2.00
One-Comb Nucleus.......	1.00

All Queens ready to mail on receipt of the order.

Breeders are from last season's rearing.

Send for price-list of Queens by the dozen.

J. L. STRONG,
14Atf CLARINDA, Page Co., IOWA.
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IF WE COULD
use common fence-wire, we could sell fence cheaper.
PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.
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Queens UNTESTED ITALIAN, 50 cents each; tested. $1 each. Queens large, yellow and prolific. Circular free.

21Atf Address, E. W. HAAG, Canton, Ohio.
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Queen-Clipping Device Free....

The MONETTE Queen-Clipping Device is a fine thing for use in catching and clipping Queens wings. We mail it for 25 cents; or will send it FREE as a premium for sending us ONE NEW subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,

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118 Michigan St., Chicago, Ill.

FREE FOR A MONTH....

If you are interested in Sheep in any way you cannot afford to be without the best Sheep Paper publisht in the United States.

Wool Markets and Sheep has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.

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The Bee-Keeper's
Guide
Or, Manual of the Apiary,
—BY—
PROF. A. J. COOK.

460 Pages—16th (1899) Edition—18th Thousand—$1.25 postpaid.

A description of the book here is quite unnecessary—it is simply the most complete scientific and practical bee-book publisht to-day. Fully illustrated, and all written in the most fascinating style. The author is also too well-known to the whole bee-world to require any introduction. No bee-keeper is fully equipt, or his library complete, without THE BEE-KEEPERS' GUIDE.

This 16th and latest edition of Prof. Cook's magnificent book of 460 pages, in neat and substantial cloth binding, we propose to GIVE AWAY to our present subscribers, for the work of getting NEW subscribers for the American Bee Journal.

Given for TWO New Subscribers.

The following offer is made to PRESENT subscribers only, and no premium is also given to the two NEW subscribers—simply the Bee Journal for one year:

Send us TWO NEW SUBSCRIBERS to the Bee Journal (with $2.00), and we will mail you a copy of Prof. Cook's book FREE as a premium. Prof. Cook's book alone sent for $1.25, or we club it with the Bee Journal for a year—both for only $1.75. But surely anybody can get only TWO NEW SUBSCRIBERS to the Bee Journal for a year, and thus get the book as a premium. Let every body try for it. Will YOU have one?

GEORGE W. YORK & CO.,
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BY RETURN MAIL.

Golden Beauty Italian Queens,
Reared from imported mothers.

Untested, 50 cts.; 12 Untested, $5.50; Tested, $1.
J. S. TERRAL & CO., Lampasas, Texas.
18Atf Please mention the Bee Journal.

ends covered with wire-screen cloth that will admit ants, but exclude all bees. Place this box on the trail of the ants, and they will carry the poison home, feed it to their young, eat it themselves, and soon the colony will be among the things that were.—E. H. SCHAEFFLE, in Gleanings in Bee-Culture.

Celluloid and Glass Bee-Veils.—Bee-veils with celluloid and glass fronts are described in our "A B C of Bee-Culture;" but in comparison with the silk tulle, so far as clearness of vision is concerned, they are little if any better, much more expensive, and, on account of their weight, are not apt to hang straight, but will flop back and forth at every movement of the apiarist. The glass, moreover, is liable to break, and get covered with moisture from the breath, to say nothing of getting dirty. I have personally tried these devices myself, and do not consider them anywhere equal to silk tulle.—E. R. ROOT, in Gleanings in Bee-Culture.

Wetting Sections Before Folding.—F. L. Thompson says in the Progressive Bee-Keeper:

"Being a mechanic, Mr. Rauchfuss has several other devices that would not occur to most of us. That for wetting sections employs a principle that has not occurred to Dr. Miller, hitherto the authority on the section-wetting question—that of letting the water come thru a long tube, reaching from a vessel set on a height. The orifice of the tube being quite small, the stream is fine, but the elevation from which it comes, by a well-known law of hydraulics, causes it to emerge with considerable force, and it dives right down into the holes made by the grooves of sections resting on their

$5.00 per month will pay for medical treatment for any reader of the American Bee Journal. This offer is good for 3 months ONLY—from May 1 to Aug. 1. Dr. Peiro makes this special offer to test the virtue of small price for best medical services. Reply AT ONCE.

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Adel Queens, $1 Each.

Send postal for dozen rates and description of bees. HENRY ALLEY, Wenham, Mass.
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The Modern Remedy Co., Kewanee, Ill.

edges, without any unnecessary overflow or waving. The tube is about three feet long. It is of lead, about one-fourth inch outside diameter, with the lower end drawn to a point, and the upper end provided with a brass fitting that attaches to a faucet in a five-gallon can. If I were rigging up such a thing, I would try a five-foot length of rubber tubing, set a bucket of water on a shelf, tie a stone to one end of the tube to keep it at the bottom, and try the siphon principle—not that it would be any better, but folks who don't understand soldering might compass it better. Then to get the fine orifice at the lower end I would try Dr. Miller's tapered and grooved wooden plug, or possibly a piece of a lead-pencil with the lead removed and the two halves tied together again—tho that might make the stream a little too large."

GENERAL ITEMS

Good Prospect for Honey.

We have every prospect for a large honey harvest. White and alsike clover are in full bloom. Altho linden has been cut to a great extent here, there is much left, and it will bloom abundantly this year.

I. A. Travis.

Wood Co., Wis., June 22.

In Tulare Co., Calif.—Overstocking.

It may not be uninteresting to know how the winter served the bee-keepers here. Last winter came on me with 40 colonies of bees. The same number came thru in fine condition. There were but few days at a time when the bees could not be out and gather honey if there was any.

Orchard bloom began to come the latter part of February, which gave the bees a fine start, and the latter part of March there was every prospect of a prosperous bee-season, when the weather turned cool and dry. The bees at once began to show the effects of the change, working slower than they had been doing, and in April they swarmed lightly—6 swarms, and 4 saved.

Now (June 20) the drones all, or nearly all, are killed, and bees in many hives are gathering barely enough honey to live on from day to day. I have fed some. Alfalfa is beginning to bloom, and in a few days it is hoped we will be in a fine honey-flow. All colonies that wintered are supplied with bees ready for the honey-flow when it comes. Appearances are good, only late in the season.

Last week a gentleman purchast a small piece of land within a mile and a half of me, and has moved 150 colonies of bees on to it. What the effect is going to be is more than we can calculate. If it will be to the disadvantage of any one the gentleman evidently thinks he has the best of the situation.

We are tolerably thickly settled in this vicinity, and nearly everybody has from one to a dozen colonies of bees, which makes our range quite well stockt, without the new comer. We ex-

SPECIAL NOTICE!

Last winter's cut of basswood is the whitest it has been for many seasons. We are now making sections out of this new stock and therefore are in a position to furnish you with the very finest quality in the market.

LEWIS WHITE-POLISHT SECTIONS

Are perfect in workmanship and color.

Orders shipt immediately upon receipt. A complete line of everything needed in the apiary. Five different styles of Bee-Hives.

Lewis Foundation Fastener simplest and best machine for the purpose. Price, ONE DOLLAR, without Lamp.

G. B. LEWIS CO, Watertown, Wis., U.S.A.

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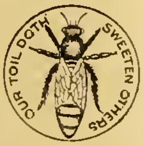
SEND FOR CATALOG.

Four Celluloid Queen-Buttons Free
AS A PREMIUM.


OUR TOIL DOTH SWEETEN OTHERS

OUR TOIL DOTH SWEETEN OTHERS

For sending us **ONE NEW SUBSCRIBER** to the Bee Journal for the balance of this year, with **50 cents**, we will mail you **FOUR** of these pretty buttons for wearing on the coat-lapel. (You can wear one and give the others to the children.) The queen has a golden tinge. This offer is made only to our present regular subscribers.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate, it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

Prices of Buttons alone, postpaid: One button, 8 cts.; 2 buttons, 6 cts. each; 5 or more, 5 cts. each. (Stamps taken.) Address,

GEORGE W. YORK & CO., 118 Michigan St., CHICAGO.

QUEENS!

Untested Queens, Italian, 60 cents. Tested, $1.00.
From honey-gathering stock.
We keep in stock a full line of popular Apiarian Supplies. Catalog free.

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A HANDY TOOL-HOLDER!

Sent by Express, for $1.50; or with the Bee Journal one year—both for $2.00.

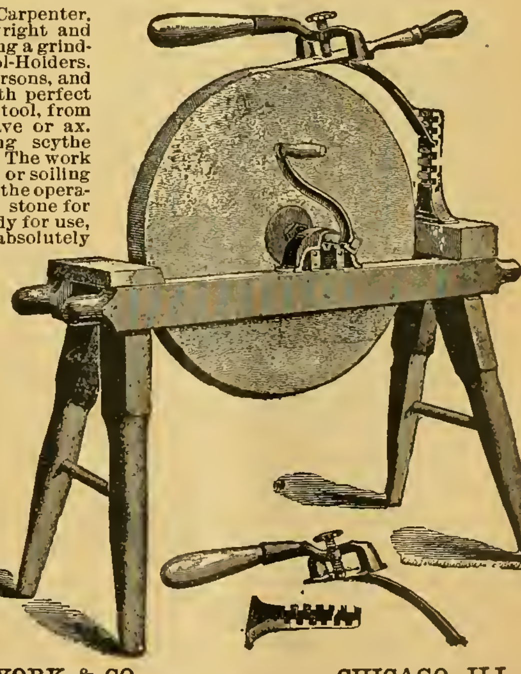
Every Manufacturer, Miller, Carpenter, Cabinet Maker, Machinist, Wheelwright and Quarryman, Farmer, or any one using a grindstone, should have one of these Tool-Holders. One boy can do the work of two persons, and grind much faster, easier and with perfect accuracy. Will hold any kind of tool, from the smallest chisel to a draw shave or ax. Extra attachment for sharpening scythe blades included in the above price. The work is done without wetting the hands or soiling the clothes, as the water flows from the operator. It can be attached to any size stone for hand or steam power, is always ready for use, nothing to get out of order, and is absolutely worth **100 times its cost.**

No farm is well-equipped unless it has a Tool-Holder. Pays for itself in a short time.

How to Use the Holder.

Directions.—The Tool is fastened securely in the Holder by a set-screw and can be ground to any desired bevel by inserting the arm of the Holder into a higher or lower notch of the standard. While turning the crank with the right hand, the left rests on an steadies the Holder; the Tool is moved to the right or left across the stone, or examined while grinding, as readily and in the same way as if held in the hands.

For grinding **Round-Edge Tools,** the holes in the standard are used instead of the notches.



Address, **GEORGE W. YORK & CO.** **CHICAGO, ILL.**

pect to go on the principle that what cannot be cured will have to be endured. I would be pleased to see instructions or a discussion of the situation in American Bee Journal. If there are precautions we can be governed by them in case of overstocking, etc. SUBSCRIBER.

Tulare Co., Calif., July 20.

Sunshine for Driving Out Moths.

Bees wintered well in this section, and are storing a good deal of honey. There is an abundance of white clover. Yesterday, in cleaning up some old hives with comb where bees had died during the winter, I held the comb up in the doorway towards the sun, looking for moths; the bright sun drove them from their hiding places, and they crawled out on the outside where I could brush them off. From one comb where at first I only saw a few moths the sun drove out a score or more. I don't remember seeing this method of finding moths mentioned before, and thought it might be useful to some of the readers of the American Bee Journal. J. RIDLEY.

Winnesheik Co., Iowa, June 21.

Some Experiences with Bees Stinging.

Reading the article on page 147, and again on page 395, about bees stinging, I will relate some of my experiences:

About the year 1869 or 1870, in the wild blackberry season I visited an old soldier friend in Crawford Co., Wis. I owned and drove to this friend's a mule team. My friend had no hay at that time of year, but feed being good in the yards we picketed the mules over night in the door-yard, a place of a half acre, more or less. In the morning I moved the mules, which brought one of them close to two colonies of bees kept in box-hives, never dreaming of any trouble from them. We all went into the woods berrying, returning about 11 a.m. We were picking over some of the berries for dinner, when a boy a dozen years old sitting in the door, after looking very steadily in the direction of the mules, said very slowly, "Mr.—, I—guess—the—bees—are—stinging—your—mules." Being quite warm I was in my shirt sleeves, also hatless, I ran out. The mule nearest the hives was literally covered with bees. She was kicking, rolling, pawing, and getting into worse shapes than any mule I ever saw inside of a circus ring. Of course I went to her assistance at once, hatless and coatless. I had all I could do to keep out of her way, for she was wild by this time. The bees fell upon me—not by the dozen but by the hundreds—yes, I think thousands, for both colonies were out in full force.

My friend was out, too, but was unable to assist me for a few moments. They stung me over my body, hands, head and face. When I could get a chance I ground up what were on my head, but finally I got the mule loose in some way, and started for a cornfield near at hand. By hard work I soon got rid of what were following me.

As soon as I was away with the mule they all pitcht upon the other one, which was a little further off. My friend saw a broad-ax lying near, and he severed the rope and let her free. Then the dog, a calf, and all the people near, had to take a look for protection for about 20 minutes, when all was quiet again.

Northern Italian Queens!

Reared by the best methods from my GREAT HONEY-GATHERERS. Price, $1 each. Orders for queens to be filled in rotation beginning June 1st. Ready to book orders NOW.

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Bees for Sale PRIME STOCK. NO DISEASE.

Write for prices. H. Lathrop, Browntown, Wis.

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A Journal that is over a quarter of a century old and is still growing must possess intrinsic merit of its own, and its field must be a valuable one. Such is the

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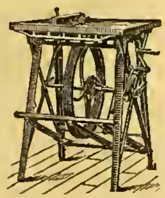

Read what J. I. PARENT, of Charlton, N. Y., says: "We cut with one of your Combined Machines, last winter, 50 chaff hives with 7-in. cap, 100 honey racks, 500 brood-frames, 2,000 honey boxes, and a great deal of other work. This winter we have double the amount of bee-hives, etc., to make, and we expect to do it with this Saw. It will do all you say it will." Catalog and price-list free.

Address, W. F. & JOHN BARNES,
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The Rural Californian

Tells all about Bees in California. The yields and Price of Honey; the Pasturage and Nectar-Producing Plants; the Bee-Ranches and how they are conducted. In fact the entire field is fully covered by an expert bee-man. Besides this the paper also tells you all about California Agriculture and Horticulture. $1.00 per year; 6 months, 50 cents. Sample copies, 10 cents.

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EMERSON TAYLOR ABBOTT, Editor.

A live, up-to-date Farm Journal with a General Farm Department, Dairy, Horticulture, Livestock, Poultry, Bees, Veterinary, Home and General News. Edited by one who has had practical experience in every department of farm work. To introduce the paper to new readers, it will be sent for a short time to New Subscribers, one year for 25 cents. Sample copies free. Best Advertising Medium in the Central West. Address,

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BEES QUEENS Smokers, Sections, Comb Foundation And all Apiarian Supplies cheap. Send for FREE Catalogue. E. T. FLANAGAN, Belleville, Ill.

Please mention Bee Journal when writing.

I don't know how many stings I had, but I think not less than 100.

The first mule had more than five times this number. Not knowing what to do I bathed my head and face, and also the mule, with kerosene oil, and that evening drove home a distance of 12 miles—and in a couple of days we were no worse for the experience.

I bought a half dozen colonies of bees in 1895, and put them out in the spring 30 feet from the kitchen door, and one rod from the driveway, where I drove my team every day. I never had but one sting from being so near, and only one on a horse. I was driving in one day when a bee, dropping down while hard at work, struck the horse just over the eye, and not getting free, of course left its stinger in the horse's flesh, which he objected to very much. This was all the trouble we had that year. The next year, just in swarming-time, an old gentleman of 70, and his wife, past my place in a lumber wagon; the road was about 70 feet from the nearest hives, and a swarm of bees were in the air right in or over the road. There was no one at the house or nearer than 40 or 50 rods from the apiary. The old people did not notice, or did not think, and drove right into the swarm. Just as soon as the bees began to sting the horses they would not move, and they attackt the people also. The women gave the cry of alarm, and soon brought to their assistance two men who were plowing corn some 50 rods away. The old people had abandoned the team, and retreated to a safe distance. The horses had laid down and were still down when help arrived. The two men went to work bare handed, without veil, unhitcht and took the horses to a house one-half mile away, and bathed the horses for two hours with alcohol secured from a town three miles away.

The horses came out all right after about three month's roving in the pasture, but the top of their ears came off.

I keep now from 12 to 20 colonies of bees right along in a little lot of ¾ acre. I have a cow which is pastured in this lot; she eats the grass around the hives just the same as tho they were stumps. I have noticed her feeding, standing right in front of two or three hives, switching her tail, and loaded bees coming in and the naughty cow standing right in the way of their getting into the hive. I never saw but one bee sting her; that time she kickt up her heels and ran into the barn, as the door stands open. I don't feel any alarm for her safety, for should she trouble them too much and they should resent it, she has a safe retreat.

I believe that bees get used to stock if they are kept around them. I remember years ago, when I knew nothing of bees—only that they had stingers and stored honey—that I could not go among them two minutes before a bee was after me. Now I work among my bees, often hatless, and very seldom have any trouble. I like to work with them, but we have so much trouble of late getting any clover to stay by us, and the basswood is being all cut off, so that I am afraid we shall have to cut down our bee-yard to about one-third of its present size.

I don't find anything better for bee-stings than cold water, for man or beast. L. G. BLAIR.

Grant Co., Wis., June 23.

Poor Prospect for Honey.

Bees in Tulare County are doing very poorly this year. Our main honey-plant—alfalfa—has not bloomed yet. I think the honey crop in this locality will be light. Bees now are bringing in just enough to live on. We generally have 3½ months of honey-flow in June, July and August—and the first half of September. We have now lost the first part of June, and a very poor outlook for the rest of June.

DAN CLUBB.

Tulare Co., Calif., June 19.

Honey Crop to Be Short.

My bees wintered well, and have swarmed very freely since May 4. I have about 100 colonies now. The honey crop will be short this season in my section of the county.

J. P. ORCUTT.

Hardin Co., Iowa, June 22.

What Will the Harvest Be?

My first swarm of bees issued June 14th. There is plenty of clover bloom, but only three good honey days thus far. Yellow sweet clover (Mellilotus officinalis) has been in bloom for a month, and the white variety has just begun to bloom. White clover bloom is quite plentiful, but has failed to give down the precious nectar. What will the harvest be? MRS. L. HARRISON.

Peoria Co., Ill., June 21.

Drouth—Fastening Foundation in Sections.

Owing to a drouth, which is quite general in the north half of this State, and vast areas of the Dakotas, the outlook for profit here is very poor this season. Most of the cereal grains—wheat, oats and barley—are almost past being helpt by rain. What is true of the crops is to a great extent true of the honey-flora. Altho in the more shaded places—the timber and brush—white clover is producing some, but so little that the swarming-impulse is very low, and no surplus honey is being stored.

Our early spring with unusually fine weather brought the wild fruit-bloom into its fullest glory; and the bees started with a boom, but their beginnings for increase and stores of surplus honey faded away with the last of the bloom. Drouths like this are uncommon here. With a sufficiency of rain white clover and basswood may give us a good honey crop yet.

About fastening starters in sections: If Mr. Lathrop (page 373) will come over I think I can soon convince him that putting foundation in sections is very easy and pleasant work. I have a little apparatus arranged to fit in and over the lamp chimney. On this is fastened a little pan to hold beeswax which is heated by the lamp. The pan is a little to one side, leaving about one-fourth of the open space of the chimney for heating the sections. Two horizontal projections are arranged to hang the sections on.

When all is ready, hang on a section, leave its edge side against the pan. In five seconds remove and replace with another. Now turn the first with the heated side downward in your hand. Dip one edge of the foundation in the heated wax and apply quickly to the place it is desired to be fastened. If all has been of the proper temperature, and the work done well, it may now be carefully turned and placed for cooling. The next section may now be replaced and used in the same way.

As for speed with small starters, I can put them in at the rate of eight per minute, and do it right. With full-sized sheets the speed is not so rapid, but is quite gratifying. Certainly, it can be "delegated to cheap help." Only get those who take pride in doing their work well.

To use the above plan gives full satisfaction; to others it may serve only as a suggestion to be improved upon.

E. S. ROE.

Todd Co., Minn., June 21.

Texas.—The Central Texas Bee-Keepers' Association convenes in seventh annual convention, at Hutto, Tex., July 12 and 13, 1900. All are cordially invited to attend. Excursion rates, and no hotel bills to pay.

Hunter, Tex. LOUIS SCHOLL, Sec.

Italian Queens.

	1	3	6
Untested Queens................	$0.90	$2.50	$4.50
Select Untested Queens........	1.25	3.25	6.00
Tested Queens...................	1.25	3.50	7.00
Select Tested Queens	2.00	5.00	9.00

These Queens are reared from honey-gatherers. Orders filled in rotation. Nothing sent out but beautiful Queens.

27A5t O. J. BLOCHER, Pearl City, Ill.

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Rocky Mountain Bee-Plant Seed!

(*Cleome integrifolia.*)

...FREE AS A PREMIUM...

The A B C of Bee-Culture says of it: "This is a beautiful plant for the flower-garden, to say nothing of the honey it produces. It grows from two to three feet in hight, and bears large clusters of bright pink flowers. It grows naturally on the Rocky Mountains, and in Colorado, where it is said to furnish large quantities of honey."

We have a few pounds of this Cleome seed, and offer to mail a ¼-pound package as a premium for sending us ONE NEW subscriber to the American Bee Journal, with $1.00; or ¼ pound by mail for 40 cents.

GEORGE W. YORK & CO.
118 Michigan St. CHICAGO ILL.

Albino Queens by return mail. Untested, 75 cts.; warranted, $1.00; tested, $1.25.

12A26t J. D. GIVENS, LISBON, TEX.

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The leading Horticultural and Agricultural paper of the Pacific Coast. Publisht weekly, handsomely illustrated, $2.00 per annum. Sample copy free.

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330 Market Street, - SAN FRANCISCO, CAL.

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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, June 19.—Not any new comb honey on the market with the exception of a little sweet clover, which, owing to the scarcity of comb honey, has sold at 15 cents. Extracted is slow of sale with 7 cents about highest price that can be obtained for white; 6½@7c for best ambers, and 5½@6c for dark grades Beeswax, 27@28c. R. A. BURNETT & CO.

KANSAS CITY, June 20.—We quote: No. 1 white comb, 14@15c; No. 1 amber, 13@14c; No. 2 white and amber, 13@13½c. Extracted, white, 7½@8c; amber, 7c. No beeswax in the market.

We have a shipment of new comb honey in transit from Florida. The supply of old comb honey is very light, mostly candied.

C. C. CLEMONS & CO.

DETROIT, May 24.—Fancy white comb, 15@16c; No 1, white, 14@15c; amber and dark, 10@12c. Extracted, white, 7c; amber and dark, 5@6c. Beeswax, 25@26c.

Supply and demand for honey both limited.

M. H. HUNT & SON.

NEW YORK, May 21.—Our market is practically bare of comb honey, and there is a good demand for white at from 13@15c per pound, according to quality and style of package. The market on extracted is rather quiet, and inactive. New crop is slow in coming in, and prices have not yet been establisht. Beeswax holds firm at 27@28c. HILDRETH & SEGELKEN.

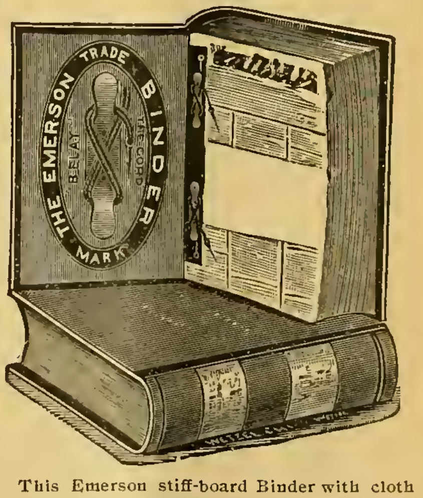
SAN FRANCISCO, June 6.—White comb, 11½@12½c; amber, 8@10c. Extracted, white, 6½@7c. light amber, 6@6½c; amber, 5@5½c; Beeswax, 26@27c.

There is not much honey on market, either old or new. Small quantities of new comb and extracted are going to local trade at comparatively stiff values. In some instances, especially for comb, an advance on best figures warranted as a quotation are being realized. To secure export orders, however, of anything like wholesale proportions, prices above noted would have to be materially shaded.

WANTED—HONEY AND BEESWAX.

We have a tremendous and growing trade in this line, and would like to hear from all who have such goods to sell in any part of the country, with quality, description, and lowest cash price. THOS. C. STANLEY & SON, Fairfield, Ill.

The Emerson Binder



This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

GEORGE W. YORK & CO.
118 Michigan Street, CHICAGO, ILL.

We have a Large Stock on hand and can ship promptly.

SEND US YOUR ORDERS FOR

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Our Falcon Sections and New Process Foundation are ahead of everything, and cost no more than other makes. New Catalog and copy of THE AMERICAN BEE-KEEPER free. Address,

THE W. T. FALCONER MFG. CO.,
JAMESTOWN, N. Y.

☞ W. M. GERRISH, East Notingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.

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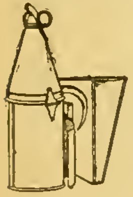
MADE TO ORDER.

BINGHAM BRASS SMOKERS

made of sheet-brass which does not rust or burn out should last a life-time. You need one, but they cost 25 cents more than tin of the same size. The little pen cut shows our brass hinge put on the three larger sizes.

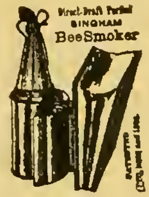


No wonder Bingham's 4-inch Smoke Engine goes without puffing and does not

DROP INKY DROPS.

The perforated steel fire-grate has 381 holes to air the fuel and support the fire.

Prices: Heavy Tin Smoke Engine, four-inch Stove, per mail, $1.50; 3½-inch, $1.10; three-inch, $1.00; 2½-inch, 90 cents; two-inch, 65 cents.



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the original, and have all he improvements, and have een the STANDARD OF EXCELLENCE ‹122 years. Address,

T. F. BINGHAM,
Farwell, Mich.

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To say to the readers of the BEE JOURNAL that

DOOLITTLE...

has concluded to sell QUEENS in their season during 1900, at the following prices:

1 Untested Queen	$1.00
3 Untested Queens	2.25
1 Tested Queen	1.25
3 Tested Queens	3.00
1 select tested queen	1.50
3 " " Queens	4.00
Select Tested Queen, last year's rearing	2.50
Extra selected breeding, the very best	5.00

Circular free, giving particulars regarding each class of Queens, conditions, etc. Address,

G. M. DOOLITTLE,
11A26t Borodino, Onondaga Co., N. Y.

Please mention Bee Journal when writing Advertisers.

23rd Year **Dadant's Foundation.** 23rd Year

Why does it sell so well?

Because it has always given better satisfaction than any other.
Because in 23 years there have not been any complaints, but thousands of compliments.

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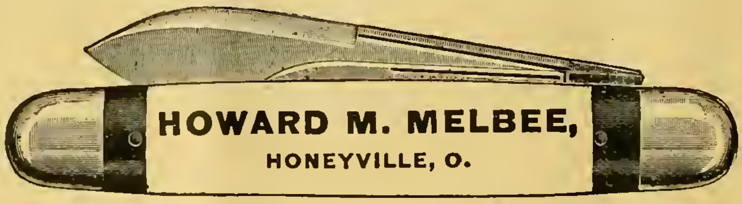

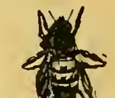

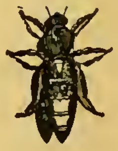

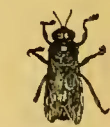

[THIS CUT IS THE FULL SIZE OF THE KNIFE.]

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

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Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and in case of death, your relatives will at once be notified of the accident.

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The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

How to Get this Valuable Knife.—We send it postpaid for $1.10, or give it as a Premium to the one sending us THREE NEW SUBSCRIBERS to the Bee Journal (with $3.00.) We will club the Novelty Knife and the Bee Journal for one year, both for $1.90.

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GEORGE W. YORK, Editor.

AMERICAN BEE JOURNAL.

ESTABLISHT IN 1861 OLDEST BEE-PAPER IN AMERICA

DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS.

40th YEAR. CHICAGO, ILL., JULY 12, 1900. No. 28.

CONTRIBUTED ARTICLES

Packages for Shipping Extracted Honey.

Written for the Wisconsin Convention at Madison, Feb. 7 and 8, 1900.

BY A. G. WILSON.

MY experience in shipping and selling honey in barrels and kits has been quite satisfactory.

For the past 9 years I have produced and sold, some seasons, over 20,000 pounds in the above-named packages, which reacht its destination in good order, except in two instances, where one barrel and one kit evidently had been broken open and robbed of part of their contents.

I use 32-gallon basswood barrels, steel hoopt, each holding 350 pounds of honey. The kits are manufactured for holding jelly, but are very convenient and durable for honey, each holding 33⅓ pounds. I scarcely ever have a package leak.

The barrels are very convenient to handle about the extracting-house, also to load into the wagon, and on the railroad platform. One is not compelled to do much lifting, as they can be rolled quite easily.

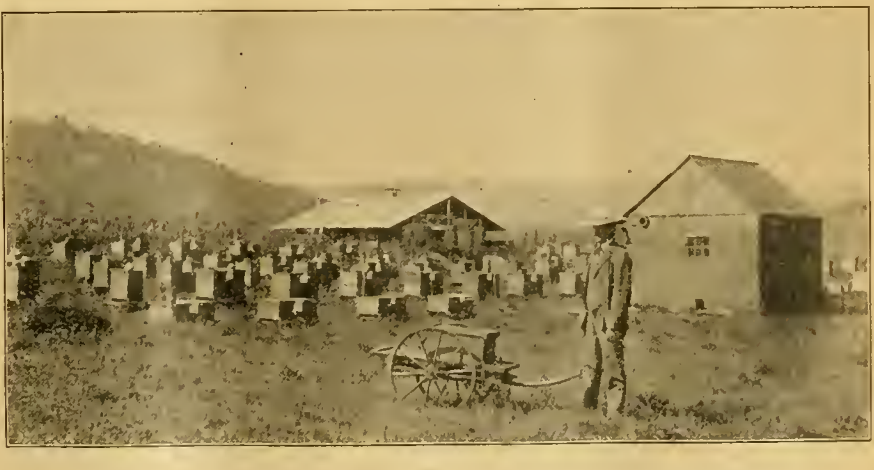
The kits are very nice to handle, and are shipt 4th class, the same as barrels; they are also the best selling package I have ever used.

I have never met with an opportunity to sell my honey for a greater price put up in 60-pound tin cans than in barrels. The cost of storage for 100 pounds of honey in barrels is 24 cents; in kits, 34 cents; in 60-pound tin cans, 75 cents.

I am not in any way interested in the manufacture or sale of any of the above-mentioned packages.

Vernon Co., Wis.

[This picture shows one of Mr. Wilson's apiaries that contains 120 colonies, a workhouse 12x12 feet, and a bee-cellar with walls and ceiling 3 feet thick, made of sand, with a board roof. The hand-cart has springs under the corners of a platform—a good cart to carry combs on. The hives in this apiary are set in pairs, so that one acts as a bench to put tools on while working with the others. Mr. Wilson is one of Wisconsin's best and largest bee-keepers.—EDITOR.]



One of the Apiaries of Mr. A. G. Wilson, of Vernon Co., Wis.

Bee-Keepers' Exchange—California's Experience

BY PROF. A. J. COOK.

I AM glad to note that there is increast attention being given to the subject of co-operation among apiarists. I was especially glad to read an article in the American Bee Journal from Mr. C. A. Hatch, who is one of our ablest men, and has had a broad experience, not only in apiculture, but also in general farming. He has also had wide observation, and is a close student of all such lines, and therefore his opinion and advice are well worth attention.

There can be no question about the value of co-operative effort in all lines of agriculture. It has been said that ten men can grow agricultural products successfully where but one can market well. There is no doubt much of truth in this, and no doubt the great handicap to the whole field of agriculture is the fact of isolation and the inability of its patrons to work together. All other businesses are able to combine and act as a unit. This is largely true in all other manual labor classes, and thus the success and value of the labor unions. The remark of one of the leaders of the labor union, recently made before a committee of Congress investigating trusts, to the effect that they feared not the trusts if they themselves could only be thoroly organized, is certainly significant.

I think there is no subject that better deserves attention of all agriculturists in every line of production than that of acting together. Their product is something that must be had, and were they combined as are the railroads and business men in manufacturing and commerce, they would certainly have a very different report to make in regard to their success and the profits of their business. I have already referred to isolation. This makes it very difficult for farmers to become acquainted and to learn the benefit of the union effort. Thus the farmers are more or less suspicious and distrustful, not to say envious, and are reluctant to trust each other. It is true, then, that it will be absolutely necessary first to commence a general work of education to show not only the value of united effort, but to convince the people that they can trust each other, and that there is no inherent reason why agriculture may not be as greatly served by the most perfect co-operation as are the railroads, or the manufacturing interests.

Southern California has taken the lead in the matter of co-operations, and the results are most gratifying and satisfactory. The raisin industry was entirely prostrate in the hands of the commission men, vineyards were being dug up or sold under mortgages, and the raisin-growers were the most despondent people of all our sunny southland. Two years ago co-operation was suggested as a remedy, and over 75 percent of the raisin-producers were brought into the combination. The result was marvelous. Over a million dollars about Fresno alone markt the increase in price. Mortgages were paid; profits were satisfactory, and despondency was at once replaced by joy and courage. Last year over 90 percent of the raisin-growers of our State came into the combination, and that assured for two years, so that now no other class of people are so full of hope and courage as are the raisin-men.

The Citrus Fruit Exchange of Southern California is another illustration of the great value of co-operations. This organization has agents in the East, and looks after the whole matter of selling, equal distribution and general progress of the business. A great saving has been made in the packing, in the cost of the boxes, etc., as well as in the costs of marketing. One year over two million dollars worth of business was done without any loss at all, and the entire loss for several years has been but a few hundred dollars. And yet the business has been up in the millions.

The Deciduous Fruit Exchange is another organization which is now about two years old, and is already well on its feet, and has a vigorous and gratifying status to-day. This organization has secured better prices in all products which it handles than those outside. In all its business it has yet never lost a cent, while the expense of the organization is almost nothing. We see, then, that we have the value of such organizations fully demonstrated. Southern California was especially well fitted to be the pioneer in such work. A great many of our ranchers (as we call them here) were successful business men of the East, who came here in search of health. Thus, they understood the value of co-operation, and were quick to make use of it. It took less time, too, to convince the general farming public that the value of such organizations was immense, and objections to them almost without foundation.

I doubt if there is as much culture and general business sense among the farmers of any other region as you will find all over Southern California. Is it not true that bee-keepers are more generally readers, and men of intelligence, than are most persons engaged in agricultural pursuits? I think this has always been true, and since the years of bad wintering and honey drouths, owing to repeated dry seasons and other causes, the unintelligent have been more and more weeded out, so that to-day it seems to me a large proportion of the bee-keepers are reading, thoughtful men. If I am right in this conclusion, then certainly apiculture is already ripe for such co-operation as I am advocating in this article.

As I have been a close observer of co-operations in Southern California, and its most earnest advocate ever since I came here, six years ago, I feel that I know something of the difficulties as well as the advantages. I don't believe there are any insuperable difficulties in the way of co-operation among our farmers. The first point to be gained is to convince the people that the project has real merit, and the second to show them that farmers can do this as successfully and extensively as can the railroads. The railroads hire men to do their work. Why, then, can not the farmers? Then, if the farmers have no business ability among themselves, which is certainly not to be believed, they can surely secure the very best of talent, and that at an expense which they can well afford, a thousand times over. I believe that the success of the raisin industry in California, of the Citrus Fruit Exchange, of the Deciduous Fruit Exchange, will speak to the whole country very soon in most persuasive tones. It would seem to me that if the bee-papers would take this matter up with all the energy of their being, they might soon bring the bee-keepers into harmony with these organizations. This is well worth all the energy and effort it will cost, for it will not only be a great advantage to the industry of the honey-producer in securing better prices, cheaper implements, and a constant, even market, but will also be another example to the country, and to the farmers generally, which will alone place the agricultural interests on a level with all other industries.

Agriculture certainly deserves a higher rank, and it is most deplorable that the industry has been so long lookt down upon. If the best morality and highest ideal of right living are to be found among the agriculturists—and I think this point can hardly be refuted—then surely anything that exalts this industry is well worth our first attention.

I am a thoro optimist. I believe to-day is the best day the world has ever seen, and I rest in the full conviction that to-morrow will be a better day. I believe a better Christianity is soon to dawn upon us; that better politics are to gratify right-minded men, and that more harmony and general helpfulness are to come upon us as communities. I can not but believe that one of the greatest agents in the production of this better condition of things is to be a more intelligent, refined and successful agricultural class. I am as strongly of the opinion that the strongest lever in producing this last condition of our agricultural classes will be thru co-operations among tillers of the soil.

May I not plead then to the editors of our several bee-papers to enlist heartily in this effort to bring the apiarists of our country to unite in the most thoro co-operation? Already California has led in this matter, and has had an organization for two or three years. It is in good hands, as the officers are not only our best bee-keepers, but are also men of great, good sense, integrity and excellent business ability. It is only to be regretted that the excessive drouths of the last two years have been so disastrous to the bee-keeper that the organization has had no chance to show its value. If better years ever come to the apiculture of Southern California, I believe we shall have another example of the great good that may come thru wise co-operation.

Los Angeles Co., Calif.

Robber-Bees—How to Cure and Prevent.

BY S. T. PETTIT.

THERE are various ways of stopping robbing. The condition of the colony being robbed should always be considered. In any case the first thing to be done is to close the hive so nearly that a single bee can with difficulty squeeze thru, then treat the robbers the same way. There may be several colonies taking a hand in the fracas. If so, look them up and punish them also. When the bees have quit flying toward night, open all up and let the robbers all go home; but watch, or in a few minutes they may go to robbing.

Again, at nightfall put the colony being robbed in a dark cellar, and leave it there for two days. In the meantime set an empty hive in its place. The hive in the cellar should be replaced on the stand in the evening, when all is quiet, and place on entrance-blocks such as is described below. If the hive being robbed is a strong one, leave the entrance three or four inches wide, and cover the entrance with a small armful of hay or straw, and sprinkle liberally and often with cold water, and take it also to the dark cellar for two days. But to prevent robbing is better, and generally easier, than to break it up after it once gets started.

Less robbing will occur if the hives face to the south or west, or anywhere between these points, for the simple reason that the prevailing winds from these quarters will favor the guards in several ways; but the west winds are too strong for best results when the hives face in that direction, so I prefer facing them to the south. Then in the evening of the first day out of the cellar give each hive whose bottom-board is at all loaded with dead bees, or is soiled, a clean, sweet, *warm* floor. To warm it, it should be kept for an hour or more in a warm room. The change should be carefully and quickly made. Let one lift the hive straight up, and another remove one floor and adjust the other; then adjust the entrance-block. Take a walk around next morning, and see how bright and thankful the little creatures look. Their home floor is so sweet and clean! and their courage will be strong enough to defend it. A dirty hive is more likely to be robbed than a clean one.

The entrance and entrance-blocks are factors that demand our careful consideration in this undertaking. The entrance should be about three-eighths inch high, and no higher.

If any one has much black blood in his yard I believe it will pay him to try entrance-blocks, that is, provided he has not something as good or better. I have a better in the shape of an addition to these blocks for very weak or queenless colonies, but there is not room for a description of it here. To make the blocks, cut a piece of lath an inch longer than the entrance. Cut this in two in the middle, then cut the corners back a little so as to form a V next to the hive when placed in position. Now cut another piece one inch shorter than the first. Next, nail this on top of one of the first pieces. Have the outer ends even when nailing. Now place all in position, and the top piece will cover the V space next to the hive. Close the entrance, and draw a mark across the loose piece at the end of the piece above it, by means of which you can tell just how far you can open the entrance when standing behind the hive.

As a rule, bees should have an entrance big enough to satisfy them. A generous entrance encourages them to defend their honey. With it they are more comfortable, and drier and warmer than with one that is too small. How can bees warm and dry themselves in a hive filled with a polluted atmosphere that can not escape? You might as well expect a Jersey to yield lots of good milk from poor hay and sawdust.—Gleanings in Bee-Culture.

⁂

Honey—From the Hive to the Table.

(*Written for the Wisconsin Convention held at Madison Feb. 7 and 8, 1900.*)

BY GEORGE W. YORK.

To produce a large crop of nice honey requires skill and labor on the part of the bee-keeper. To get that same crop of honey properly on the tables of the consumers who ought to have it, requires skill and labor of an entirely different sort from that used in its production, if satisfactory financial returns are to result.

Perhaps it will be well if the two kinds of honey—comb and extracted—are treated separately, as each must have its own special manner of preparation for marketing. Suppose we take comb honey first, as that is the form in which all honey is first taken from the hive.

THE HANDLING OF COMB HONEY.

Of course, I assume that it is in one-pound sections, be they tall or square, plain or scallopt. In most markets I believe that the form or style has not the slightest to do with its selling. People do not purchase honey because it is surrounded with wood made in a certain form—they buy honey because of its own tempting appearance and delicious flavor, the latter being suggested by the very name—*honey*.

The most popular shipping-cases are the single-tier, no-drip 12 and 24 pound, which, for safe railroad delivery, should be put up say 20 or 10, respectively, in a straw-bottomed crate, with handles so that it must be carried between two men. Then by placing the cases of honey in the crate so that it can be easily seen thru the glass, there is scarcely any dånger that a single comb in any of the cases will break down in transit.

After the honey reaches the city dealer (for I am treating the subject on the supposition that the honey goes from the hive to the city table), he will re-sell it to the grocery trade mostly in single-case lots, as the majority of retailers do not purchase honey in large quantities, knowing that they can be supplied on short notice should their supply run out.

I have found that in many instances it pays to furnish the retailer with paper cartons in which to deliver the honey to the consumer. The carton makes a neat and strong package, is very convenient, and, if properly used, it will serve as a good advertising medium for the dealer or producer. But the producer should never put more than his name on shipping-cases or cartons unless he sells direct to consumers, when he should also put on his full post-office address.

At the present time [Feb. 1, 1900] a carton of honey weighing about one pound should be furnisht to the retailer at say $2.00 per dozen, and sold out singly at from 20 to 25 cents.

Perhaps I have said enough on comb honey, so I will now turn to extracted—a more difficult problem, I think you will all agree.

THE HANDLING OF EXTRACTED HONEY.

Having a thick, well-ripened article, of excellent flavor, how shall it be transferred from the hive—or perhaps I would better say, from the extractor—to the table of the hungry consumer? Shall it be liquid or granulated? At present the liquid form seems to be most common. Later on granulated honey may become popular, but likely only in certain localities where that form has been pusht almost exclusively.

To begin at the extractor, or settling-tank, I would say (if I were not among Wisconsin bee-keepers) put it into 5-gallon *tin* cans, one or two in a wooden box. My experience with barrels as a honey receptacle for shipping has not been very encouraging, so I trust you will permit me to advise tin cans for holding and shipping even Wisconsin's fine honey.

The tin can has advantages over the barrel. It is easier to manage in reliquefying, as it can be set upon a radiator, a coil of steam-pipes, or may more easily be put into a tank of hot water. The can, when emptied with proper care, may be used again. Of course, it is a lighter package to handle, as it holds less than a barrel. It is easier to sample—simply unscrew the cap, and there you are!

But no matter whether it is shipt in tin cans or wooden barrels, it must be reliquefied, and run into small retail packages when it reaches the city, if it is ever to get to the tables of the consuming public.

Now there comes an important question: Shall the retail packages be—not wood or tin, but glass or tin? At present glass seems to be the leader, not only in the far East, but in the central West. Mr. Selser, who annually puts up about 40,000 pounds of extracted honey for retailers, uses glass entirely for quantities under five or six pounds. People are attracted by the clear, sweet liquid, and when they see it in glass they generally want it. Of course, the use of tin avoids breakage, but I believe that the tin package for retailing extracted honey will never be very popular among grocers, unless the time comes when extracted honey is sold in the granulated form.

Supposing, then, that glass is decided upon, what about the size of packages? I would suggest that there be only two—one holding a half pound or trifle over, and the other a pound or trifle less. A glass package larger than the latter I do not think advisable, nor one smaller than the former.

Of course, a neat label will be placed on every retail package of honey, and the contents be absolutely pure and of the finest quality.

These glass packages of honey should then be sold to grocers or retailers by the dozen, and at the price of glass and extracted honey to-day [Feb. 1, 1900] the half-pounds should bring about $1.40 to $1.50 per dozen, and the pound size $1.70 to $1.90; the former ordinarily retailing at 15 or 16 cents each, and the latter at 18 to 20 cents.

After all, I must confess that I am not an authority on this subject. Who is? But perhaps I have said something that may at least serve to introduce the question. If a good discussion follows, I shall feel repaid for making the effort to "set the ball rolling." Cook Co., Ill.

⁂

Queen-Excluders from Foul-Broody Colonies.

BY WM. M'EVOY.

Mr. Editor:—It will greatly oblige me if you will publish at once the following question and my answer to it which appeared in the Canadian Bee Journal for May, 1900:

> QUESTION.—Some time ago I bought a number of queen-excluders that had been on bees that had foul brood. Will it in any way affect them for future use? What precaution should I adopt, or should they be discarded altogether? W. E. Y., Tilsonburg.
>
> ANSWER.—Queen-excluders that have been used on foul-broody colonies are perfectly safe to use on any hive of bees without disinfecting. The larvæ to become diseased MUST be fed in a CORRUPT CELL or with DISEASED honey, and as queen-excluders have nothing on them for the bees to feed to the brood, they can not disease any colony of bees.
> WM. MCEVOY.

The above question was sent to Mr. Craig, and he sent it to me to answer thru his journal, which I did. Dr. Miller—a level-headed man, and one of the best bee-keepers in Uncle Sam's domain—agreed with the answer I gave. And now, to my great surprise, I have just read in the American Bee Journal for June 28, 1900, a very strong protest entered there by Mr. Hasty, against the opinions held by Dr. Miller and myself.

In the Province of Ontario I have succeeded in getting thousands of diseased colonies cured of foul brood, and in every case the same old queen-excluders were used on the cured colonies, without being disinfected in any way, and no disease ever appeared after they were again used.

If Mr. Hasty, and the other readers of the American Bee Journal, will read page 12, of Dr. Howard's book on foul brood, they will find that his test cases prove that my answer was correct. Dr. Howard is by far the best authority in the world on foul brood, and I will leave it to him to say if my answer was not perfectly correct.

Woodburn, Ont., Canada.

Bee-Keepers' Exchanges—Why? Why Not?

(*Written for the California State Bee-Keepers' Convention.*)

BY C. H. CLAYTON.

I WAS pained lately to read in a prominent bee-paper an article purporting to give the reasons "why bee-keepers' exchanges fail." The article in question was from the pen of a former member of this Association, and was wholly unsatisfactory, in that the writer not only failed utterly to grasp the logic of the situation, but also failed to point out any adequate remedy for the evils complained of.

In daily speech modern men and women pay tribute to the old order—the order which seems to decree that the bee-keeper's existence depended upon brawn and not upon brain. This thoughtless slighting of the bee-keeper's vocation seems curious when one pauses to observe how deeply the bee-keeper of to-day is involved in the meshes of commerce. The successful bee-keeper of this generation must be a business man first, and a keeper of bees afterward. In him must be combined many talents. He must be a capitalist, cautious and crafty; he must be an operator of industrial affairs, daring and resourceful, and he must play labor's part, with patience and humility. He is in business as certainly as the merchant or manufacturer. And until the order changes the bee-keeper's success in business will be governed by the kind and quantity of brains he uses.

From the flower to the ripened nectar—from the first operation in bee-keeping to the last—one is forced to realize how the spirit of the age has made itself felt here. The most desirable bee-keeper is not the fellow who can hit the punching-bag most lustily. He is the man with the cunning brain who can get the most work out of the bees without injuring them for future use. He is in the ranks of skilled labor.

In the bee-farm the investor has the use of labor-saving machinery to increase the output of his establishment; his profits are large or small according to the caprices of his market. He can not estimate with much accuracy what his cost of production is going to be at any season. The rains, the winds, the drouth, may cut his product short 50 percent, or wipe it out altogether.

During the period of time extending back for the last 10 years, the business community in the entire country has suffered from what seemed to have been over-production. The result of this was to bring about excessive competition in all lines of business. Anxious to find purchasers, prices have been cut below the limits of reasonable remuneration. This evil of excessive competition seemed to prevail everywhere. In the effort to obtain relief the wages of labor were reduced. This only led to additional complications. The working-men strove by the only means at their command to save themselves, and strikes and lock-outs were instituted, and these were followed by the usual distressful accompaniments.

The only effective means of overcoming this condition seemed to be in the obvious one of an undertaking among the producers of various lines, as to the prices to be askt for their various commodities. Regulation in this respect was only possible thru a union of interests upon the part of those engaged in the same line of business. Ordinary trade agreements were hard to enforce, and were readily disregarded in the effort to obtain business.

Only a small fraction of humanity can be stirred by considerations of moral or mental advantages. In our greedy modern life the material side is chiefly regarded. By far the greater number challenge all things with the question, "What is there in it for me?" It is but the statement of a simple fact, to say that the present tendency toward combination and co-operation is but the reaction from the keen and excessive competition of the past few years.

Whether this movement for co-operation is justifiable or not depends upon the facts in the case. Whether for good or evil must be determined by the results. An impulse so general, and so wide-spread in the business world, must have cause for its existence.

The rights of the public are not to be ignored in any event; but so long as those rights are respected the individual is certainly at liberty to concentrate his capital and combine his resources with that of his fellows in the same line of business for their mutual benefit.

A practical instance of the good accomplisht by co-operation is the decreast cost of production by doing away with the wasteful method of competitive business. By constant study of the conditions of business in all its phases they are enabled to increase the demand for a product, and thus enlarge the consumption. If abuses should arise these organizations are at all times amenable to the law. No combination will ever be able to maintain abnormal prices, for the reason that such a course would call into play practical competition, and this will always operate as a check. Any undue increase in price will lessen the demand.

The co-operative movement is the outgrowth of natural conditions, and opposition to it is based upon a misunderstanding of the fact that it is the application of a great and effectual remedy to the crushing and demoralizing condition which has resulted from unlicenst and excessive competition.

It is curious that we should have had growing up around us for the last 300 years the very co-operative system of which philanthropists dream, and that men should have failed to recognize its features. If the day ever comes when all men shall have obtained a secure competency it will be when co-operation has become universal. There is no other road leading to the abolition of poverty.

Speaking generally, there will be no honesty in the world until men have been taught that all intersocial relations should be reciprocal, due to an interchange of service among equals. Any attempt to crush out or interfere with the proper and reasonable workings of this remedy is utterly hopeless. The movement is bound to continue until all industrial activities are brought into a system of co-operation.

Now a word concerning the opposition to the movement as experienced in the Bee-Keepers' Exchange. I will name some of the reasons, as they occur to me, why the Exchange has found it difficult to attain that measure of success it deserves. I do not intend to be harsh, but I would be untrue to you if I were not plain.

The failure to perfect the organization, leaving out of consideration the failure of two crops in succession just as we were starting, is attributed to:

1st. Selfishness on the part of many who desire to sell at the better terms offered by the great buyers on account of the agitation in favor of organizing. Such men say: "You are all right, but we have a crop of honey to sell, and are now negotiating to that end. *When we have sold* we will be with you, heart and soul, and do all we can to aid you in building up an exchange that will protect our interests. In the meantime, however, do not for the world abandon the effort to bring about a perfect and complete organization of the bee-keepers."

2d. Crop mortgages which prevent independent action on the part of the producers.

3d. Concessions made to the producers in the way of rebate on commission, so much on supplies, or in any way that would be satisfactory to the parties interested. The inevitable result of such an arrangement is the lowering of prices to the producer by just that much, and it is a detriment to the honest buyer when he comes to deal with those who have not made this kind of a deal. So the concession made to one operates to the detriment of all. Men are not in business for their health, and anything of this kind is sure to be found out and taken advantage of.

4th. Intimidation. Many have foolishly tied themselves up, and are given to understand that siding with the movement might impair their personal interests.

5th. Apathy on the part of some who do their thinking by proxy.

6th. Jealousy on the part of some who fear that their neighbors may be as much, or possibly more, benefited thru the Exchange than themselves.

7th. Dissensions, caused by difference of opinion as to how to proceed, and upon what plan the business shall be conducted. We have had our share of these, but, thank the Lord! I think they are a thing of the past. The School of Adversity has taught us to look to results rather than mode or manner.

Our impressions of men and measures are too often superficial, being founded upon imperfect knowledge as to men, and meager experience as to measures. It seems to me to be humanly impossible for any one to arrive at a true solution of the problems involved in the workings of the exchange principle in the short period of one year, which length of time comprises the whole of our ex-president's experience in California. Others who have large interests here, and years of experience also, are not so ready to condemn the movement, even by implication, unless prepared to suggest something better. Too often we reach down into our minds and bring forth our thoughts, and put our brooding hypotheses into words, and show our acumen, and the searching quality of our discernment, by shaping our conclusions and offering them to be examined. Talk of this kind does not consist of sworn statement. It is merely conversation, where fact is scarce, opinion abundant, and conjecture overflowing.

After years of study I declare to you that I see no other salvation except in some form of co-operation. You may call it a "Combine," an "Association," an "Exchange," or a "Trust," if you will, and try to legislate it out of existence.

Self-preservation is the first law of Nature, and men must and will combine in furtherance of their mutual interest. Mistakes, many mistakes, have been, and doubtless many more will be, made while seeking the best method of organization, but surely these mistakes should not discourage us—should not deter us from profiting by our past experience. There is no half-way place. We are fighting for our very existence, and we must be prepared to meet conditions as we find them.

These conditions are plain to all. Why, even the newsboys on the streets of this city to-day recognize them and are organized—associated together for the protection of their interests. Shall it be said that bee-keepers, who, as a class, are among the most intelligent people of the world, can not, or will not, combine for the good of each other?

I feel deeply, earnestly in this matter. Three years now as secretary of the Exchange I have been in close touch with the commercial world, and have had abundant opportunity to see the inside workings of affairs, and I tell you truly that if you attempt to "go it alone" you will go as a lamb to the slaughter. You will be the legitimate prey of every Harpy that seeks to live off the sweat of honest toil.

Los Angeles Co., Calif.

THE AFTERTHOUGHT

The "Old Reliable" seen thru New and Unreliable Glasses.

By E. E. HASTY, Richards, Ohio.

BITTER-SWEET, OR THE BOY'S FIRST STING.

That Italian artist, page 337, certainly knows how to paint a crying boy. Also a straw skep and a rustic bench and roof, he does fairly well on. But did he post himself on the habits of bees before painting his quite successful picture? Alas, no! Without smoke his boy has taken two or three good-sized combs from the hive and got the bees off them, and has just received his first sting.

NATURAL SWARMING.

Mr. C. P. Dadant betrays his residence in a non-swarming locality where he gives as a test between normal swarms and absconders, "A natural swarm issues only in a good honey-producing time." Instead of being absolute verity this is merely a general rule, liable to many exceptions. And it is so common for bees to swarm with little honey in their sacs that it is hardly proper to call full supply a general rule. Page 337.

PROF. LAZENBY'S REPORT.

An unusual supply of "nuts and raisins," both for the critic and the student, is Prof. Lazenby's report, pages 338, 339. It is rather a surprise to me to see pears put at the foot of the list both for pollen and honey, and another one to see the peach rated so low. Takes a good many years to get general rules of this kind settled, and I wonder a little if Mr. Lazenby's years of observation have not been too few. If askt to name the honey-value of the trees off hand, I should have put the order peach, pear, cherry, apple. I see too little of plums to put them in. The nectar in a peach-blossom is often visible to the naked eye—or used to be years ago.

His first table will be handy to keep for comparison with the work of our own colonies when we incline to inspect them. It is plain from the figures that he counted the pollen-carrying bees, and *assumed* that all the rest were carrying honey. This will hardly do. Many may have been empty from various causes—and some no doubt carrying water and the nameless juices used in brood-rearing—and for the period between 2:30 and 3:00 p.m. quite likely half of them were merely returning from play.

His weight of strictly empty bees—5,750 to the pound—is lighter than we have mostly been estimating them (4,400 to 4,700), and on the whole I should say the old weights are the more practical, as we seldom have anything to do with bees *en masse* when they are *entirely* empty. Of course, it's well to know what really empty bees do weigh.

In table three I should judge the heaviest weights of much more value than the average. Pretty evident that the attempt to get honey-laden bees was a failure in several instances. Yet it is quite possible that young bees in their *first* efforts at nectar-gathering sometimes rush home with very small amounts. His two best bees carried 54½ percent of their own weight—wonderful enough to stop and think over—but my own observations in the same line make me think that, if he will keep repeating the trial till he hits the most favorable kind of a day and yield, he will record considerably heavier loads, running up to 70 percent or more.

Guess I shall scold about table four. Weighing the whole man to find out how many silver dollars he has in his pocket is rather crude. There is no serious difficulty in removing and weighing the pollen-pellets themselves, and then we know something about it. I think he is partly right and partly wrong about bees not bringing honey and pollen both at the same trip. When they go expressly for pollen probably he's right; but when they go for honey and *incidentally* get their jackets dusted with pollen, why should they comb it off and throw it away, when they might just about as cheaply pack it in little "pony" pellets and bring it along? (We apparently see them doing this sometimes.)

The most novel idea of the paper is that a pollen-gatherer visits three times as many flowers in the same time as a bee after honey. Guess that's right. The pollen is simply dabbled in—which consumes much less time than the pumping up of the nectar.

ONE OF OLD GRIMES' BEST HELPERS.

And so Old Grimes thinks that that machine on which a fellow sits down to walk is the last, if not the best, of the bee-keeper's helpers. I suppose it never thinks that it "owns the apiary and takes a fatherly interest in the owner." Page 339.

DOUBLING SWARMS IN HIVING.

Mr. Davenport, in his article on hiving swarms two and two, gave us a good Hamlet, but rather left Hamlet out of it. He "did ought" to have told us some way to head off the great difficulty of that oft desirable manipulation—the disposition of mixt bees to ball their queens. Page 340.

SWARM-HIVING APPARATUS.

Wonder if Mr. Snell thought of the Taylor swarm-catcher when he said all but the two he named had gone out of use—may be it's correct, however. Of living bee-keepers I think comparatively few have taken down more swarms than I, and my personal feeling is that any catcher that purports to take down a swarm without getting up where they are is a nuisance—not a little nuisance, but a pretty big one—albeit success can be had with them *sometimes*. Especially may failure be lookt for with a swarm that has a virgin queen. These—at least some of them—are greatly inclined to take wing repeatedly. Page 341.

EARLY SPRING HONEY.

It is worth while to note that the apiary at Notre Dame has again got spring honey enough to extract from several hives notwithstanding the unfavorably spring. One super weighed (in the gross, presumably) 32 pounds, May 16th. Queer. May be our professionals haven't found it all out yet. Page 348.

BLEACHING COMB HONEY.

Queer I didn't think of the obvious way to avoid getting sections melted by the sun in trying to bleach them—cotton cloth instead of glass. A. E. White, page 366, seems to have the thing into practical, commercial shape already. Expose to sulphur fumes *first*; then it only takes a few hours with most sections. And he finds that nearly all will bleach if exposed day after day. A cotton *room* built right over one of the honey-house doors makes the thing handy. A beat of the drums and a flourish of trumpets for Comrade White.

SUCCESS WITH BEES IN THE FAR NORTHWEST.

It is pleasant to see the success of G. T. Montgomery in the far northwest, where everybody says bees can not be kept. And his neighbor wintered a colony on the summer stand! "Everybody" is a good school-teacher, but he oft gets left, just like we'uns the nobodies. Half of the matter, I surmise, is that the nectar and pollen of the far north is still uninfected with evil germs, just as it used to be here and everywhere. Page 364.

LATE SECOND SWARMING.

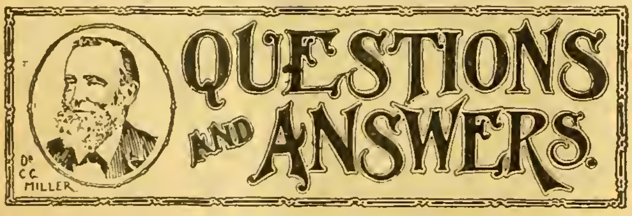
W. T. Stevenson's case of a swarm at 22d day from prime *might* happen in two or three different ways. Bees might keep queens prisoners in their cells all that time. This, if proven up, would be an interesting addition to our bee-knowledge. Same remark if a lot of virgins loose in the hive for several days neither fought nor got themselves balled. I once found a case in which a lot of surplus queens were secreted under cushions, etc., about the hive, having evidently been driven out "higglety-pigglety" by the workers that didn't want to be bothered with them. A case like this might result in a 22d day swarm. The citizens of the hive (being all women-folks) might change their minds, allow one of the poor outcasts to come in again, and then swarm when the regnant queen began to "say things." Page 363.

BEE-KEEPING IN A FOREIGN LAND.

"Just so as it ought to be" when we hear of bee-keeping in a foreign land from the pen of one of the consuls of the United States. See the interesting account of bee-affairs in the Holy Land by Consul Merrill. Page 356.

GLAST CARTONS FOR HONEY.

So the carton of the future must be partly glass and partly paper, eh? Shouldn't wonder. But I want to put in my parting scowl and kick for the "uplifting" of those brethren who desire such a thing as to sell glass for honey by weight, at more than its cost. Page 353.



CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Split Bottom-Bar for Brood-Frame.

Would it be advisable to split the bottom-bar of the brood-frame so that foundation might be fastened at the base? I have experienced much trouble in getting the bees to fasten the comb to the bottom-bar. MASS.

ANSWER.—I have many frames in use that have a split bottom-bar, and I like them very much. The only trouble is that if no precaution is taken the comb will be bulged. I prevent bulging by using splints put in perpendicularly.

Foul Brood and the Queen—Introducing Queens—White and Fall Honey-Flow.

1. If I should purchase a queen by mistake taken from a colony that has foul brood, would the queen transmit the disease to my apiary?

2. I received a $2.00 queen from a queen-breeder June 7, and placed the caged queen in colony No. 40, having previously destroyed carefully every queen-cell. On the 9th I release the queen and on the 11th I opened the hive and found a virgin queen with the drone appendage still adhering, and my $2.00 queen lying outside dead. Nos. 39 and 40 hives were just alike, and close together, and No. 39 had a virgin queen that became missing at the time. Now could the virgin queen in No. 39 have come out and met the drone and gone back into No. 40 and killed the laying queen? Would the bees allow a strange virgin queen to enter the wrong hive unmolested?

3. If on account of a poor honey-flow the bees only partly fill the supers, is it best to leave them on the hives till the fall flow, or take the sections off and put them back at the beginning of the fall flow? OHIO.

ANSWERS.—1. At least some of the authorities say the disease is not communicated by the queen, but I should prefer a queen from a healthy colony.

2. The thing probably happened just as you hint. The $2.00 queen had been in the hive only a day or two, hardly recovered from her journey in the mails, and the bees took up with the stranger. Whether the young queen or the workers killed the queen is a question. Bees are freaky things, and the same thing might not happen with you again in a lifetime.

3. If there is the same difference in price as generally prevails between the early and fall honey, (two cents or more a pound), better take off all finisht sections at the close of the white flow.

◆

An Insect That Works on Red Clover.

I enclose an insect. What is it? I have seen them work on red clover for a number of years. I do not know where they come from, and nobody else has them in this neighborhood. IOWA.

ANSWER.—I am not an entomologist, and am acquainted with very few of the many kinds of bees, an acquaintance with them lying outside of bee-keeping proper. The specimen sent looks to me more like some kind of fly. Prof. A. J. Cook, of Claremont, Calif., is an entomologist, to whom should be sent all kinds of "bugs" to be named, not forgetting to put in stamps for reply.

◆

Questions on Swarming.

1. June 7 a prime swarm issued, and I put it on the old stand, and set the old colony beside the new one. June 14 I removed the old colony to a new stand; on the 17th it cast another swarm, but went back into the hive. What was the cause?

On the 17th another colony cast a prime swarm. I put the new swarm on the old stand and the old one beside it. On the 18th the old colony cast another small swarm, and it also went back. I have had bees for 10 years, and never had them act this way before. MINNESOTA.

ANSWER.—1. It is possible that the prime swarm had been delayed by the weather, so that on the 17th the young queen was able to take her wedding-flight, at which time a swarm sometimes come out and returns. It is also possible that the swarm on the 17th was a regular second-swarm, and it returned for some reason that I don't know.

2. It may be that the old queen was killed or lost some time before the 17th, so that a lot of young queens were reared and one of them came out with the swarm on the 17th, and another the next day.

◆

Extracting Honey—Cross Bees, Etc.

1. I am a new hand with frame hives and so I want some advice. I use the 10-frame hive. Will it do to extract all above the honey-board, just leaving the 10-frames?

2. Will it do to extract a frame, say about 2/3 or 3/4 sealed?

3. Why is some extracted honey thin on top in a comb or barrel?

4. Will sweet clover grow in red clay land?

5. I have some very cross bees. What is the best way to manage them?

6. Our honey is from poplar, sourwood, etc.; no clover or grain, but a lot of woodland near here. How many colonies will do well in one place? If I build up another apiary how far must I have it from the first?

7. If I use 10 frames for the brood chamber, how many frames should there be in the extracting-super? ALA.

ANSWERS.—1. Yes, all above the honey-board should be extracted, and some extract part that is in the brood-chamber, but generally it is best to let the brood-nest alone.

2. It will be easier to extract before any sealing is done, but the honey will be thin and unsatisfactory. You get a fair body of honey by extracting when ¾ sealed, but it will be still better if you wait till all is sealed.

3. When you extract honey that is partly sealed, the unsealed part is thinner and lighter than the rest, and so rises to the top.

4. Yes, it is hard to find any soil on which it will not grow.

5. The very best way to do with very cross bees is to change the stock by killing the queen and giving them a queen that will produce gentler bees. In a month or two the old bees will be all gone, but the change in disposition comes before that, and it almost seems as if the presence of the new queen has some effect upon the tempers of the old bees. You will get along best with the cross bees by being very gentle in your movements with them, making no quick motions, and using only enough smoke to subdue them, but repeating the dose whenever they show fight. Be careful to leave no bits of honey lying around, for a little start at robbing may make very cross bees of those that under ordinary circumstances are gentle.

6. No one can say for certain, but perhaps 75 to 100 colonies may do in one place. Something like 3 or 4 miles is a good distance between apiaries.

7. Some use 9, but more 10.

Marking Bees to Distinguish Them.

How can bees be markt so as to distinguish them from others of the same colony? ILLINOIS.

ANSWER.—A camel's-hair pencil dipt in some bright color may be lightly toucht on the upper part of the thorax.

Forming Increase to Prevent Swarming.

I would like to know what is the best way to form increase to prevent swarming in an out-yard. WIS.

ANSWER.—That's a hard question. One way is to take the queen with a frame of brood, a frame of honey, and the adhering bees, put her in a hive in a new place for 8 or 10 days, then put the hive that contains the queen on the old stand and the old hive in the new place—in other words, let the two hives swap places, brushing the bees off about half the brood-combs into the hive that contains the queen. Another, and perhaps a better way would be this: Take all the brood from the old hive and fill up the hive with foundation. Shake off about half the bees from the frames of brood, or brush off clean half the frames, leaving all the bees on the other half, put this brood with its remaining bees in a hive on a new stand, and in about two days give it a laying queen.

Pollen in Surplus Honey.

We are annoyed very much this year with pollen in our surplus honey—both sections and frames. Can we do any thing to prevent it? KENTUCKY.

ANSWER.—It is possible something might be done if all the conditions were known; but it is hard to guess at the conditions, and equally hard for you to mention conditions that might make a difference. You say pollen troubles in sections "this year." It is somewhat doubtful that the year or the season has much to do with it. More likely there is something a little different about your management. Possibly the brood-chamber is crowded. Some have complained of pollen in sections when brood-frames were very shallow. Thick top-bars, slat honey-boards, queen-excluders, anything that makes greater distance between brood and sections may help to keep pollen out. After all, it is just possible that some peculiarity of the season may have more to do with it than I have suspected.

Colony Perhaps Overheated in Transit.

I have been perplext about the way one of my colonies has been acting the last three or four nights. Each morning I find hundreds of young bees on the alighting-board which are pulled or driven out of the hive, some of them almost able to fly, others having the appearance of having wings eaten off, or not yet developt. These young bees are able to crawl around on the grass during the whole day, but are driven off or carried away when they try to enter. This colony I had shipt to me about 10 days ago, and the hive seemed too full of bees for the warm weather. None could fly for about 24 hours after arrival, being nearly suffocated. Now they work well and are gathering honey. I have made inquiries from old bee-keepers to explain what is wrong, and what is the remedy, but got no satisfaction. ONT.

ANSWER.—It is quite possible that the overheating on the journey injured these young bees in the way described, and that as soon as the injured ones are disposed of the colony will be all right.

Absconding Swarm—Bees Defending Their Hive.

1. After we had taken in a swarm of bees, we let the hive stand where it was. We watcht the hive during the day, and were to remove it later on. When "later on" came there were only a few bees left. We saw bees flying out but none entering. What was the cause?

2. I have had a number of colonies that fight in front of the entrance. Are they protecting from robber-bees, as they look well? MINNESOTA.

ANSWER.—1. The bees may have absconded, or they may have returned to their own hive. If the hive stood out in the sun, or if it was too close, that favored absconding. Keep a hive open, even to leave the cover partly off the first day after hiving. It is well to put a hive where it is to stand just as soon as the bees are all settled. Scouts may be out looking for a place, and there is a possibility that such scouts may come and take the swarm to the place they have found, if the swarm is still standing where they left it.

2. Yes, when there is fighting in front of a hive, it is likely the bees of the hive are defending their hive against intruders.

Queer Idea of Drones—Uniting a Swarm with a Colony.

1. I received this story from a person who had it from an experienced (?) apiarist; it is only because he askt me as a favor to write you, that I trouble you with such an absurd statement:

The (experienced) apiarist says that the "king-bees" (drones) have a sharp, horny thing in place of a sting, and when it is time to swarm they keep picking at the queen until she leaves the hive, and the bees follow her. What do you think of it?

2. I have a colony of bees I do not think will swarm, which I will call A. I bought a swarm from a neighbor which I call B. Now, if A should swarm, what is the best way of uniting with B?

As I am shortsighted I would not be able to find queens of A or B. Would it do any harm to simply let them fight it out? MINNESOTA.

ANSWERS.—1. Wherever you find drones with that sharp horny prod, they are very vindictive, and resent anything said about them, and if they once learn the name of the "experienced apiarist" that has told about them, they will be sure to prod him to death! As you have suppress his name, his life may be spared.

2. If A swarms within a few days of B, the swarm may be allowed to enter with B. If some days elapse before A swarms, shake all the bees of B from the combs onto the ground in front of the hive, dump the swarm on the ground with them; and after they have run together into the hive, put the brood back. The bees will settle the matter of queens. But you ought to have a pair of glasses that would allow you to recognize a queen easily.

York's Honey Calendar for 1900 is a 16-page pamphlet especially gotten up to create a demand for honey among should-be consumers. The forepart was written by Dr. C. C. Miller, and is devoted to general information concerning honey. The latter part consists of recipes for use in cooking and as a medicine. It will be found to be a very effective helper in working up a home market for honey. We furnish them, postpaid, at these prices: A sample free; 25 copies for 30 cents; 50 for 50 cents; 100 for 90 cents; 250 for $2.00; 500 for $3.50. For 25 cents extra we will print your name and address on the front page, when ordering 100 or more copies at these prices.

The Premiums offered this week are well worth working for. Look at them.

AMERICAN
ESTABLISHT IN 1861 OLDEST BEE-PAPER IN AMERICA
BEE JOURNAL.
DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS

PUBLISHT WEEKLY BY
GEORGE W. YORK & COMPANY,
118 Michigan Street, Chicago, Ill.

[Entered at the Post-Office at Chicago as Second-Class Mail-Matter.]

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IMPORTANT NOTICES:

The Subscription Price of this journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "Dec00" on your label shows that it is paid to the end of December, 1900.

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Advertising Rates will be given upon application.

VOL. 40. JULY 12, 1900. NO. 28

EDITORIAL COMMENTS

NOTE—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

The National Convention Next Month—don't forget it. The dates are Aug. 28, 29 and 30. Every bee-keeper who can arrange to be present should be on hand early and stay until the end. It promises to be the greatest convention of bee-keepers held since the World's Fair, in 1893. The officers are planning an interesting program.

Ripening Honey Off the Hives.—S. P. Culley, in the Progressive Bee-Keeper, quotes G. M. Doolittle as saying that honey can be ripened in open jars in a warm room, and now saying basswood should be ripened on the hive to get its best flavor. Mr. Culley thinks this is true of sumac, and notably true of Spanish-needle honey. But he thinks white clover honey may be just as good ripened artificially; so it is important to know what kinds of honey need to be left on the hive to ripen.

New Bee-Papers.—The editor of the Progressive Bee-Keeper thinks it selfishness to speak discouragingly of starting new bee-papers. Couldn't our contemporary exercise a little more charity and admit that one might discourage an uncertain venture with other than selfish motives? Knowing that nine out of ten of the new bee-papers have ended only in failure, and that the longer a failing journal continues the struggle the greater the financial loss, is there anything kind in encouraging a new venture when you are morally certain that it will end only in failure, and that every month the struggle is continued means dollars of loss to the struggler?

As it is not our money that is sunk in new papers, perhaps we should keep quiet and let the starters learn by experience. And yet, it seems to us that it would be just a trifle hard-hearted in us not to offer a warning word to the man of small capital, and less experience, who is thinking of starting on a venture that is practically certain to end in loss and failure. When a child, unless told, doesn't know that fire will burn its fingers, isn't it a kindness to warn it? We think so, no matter what others may say to the contrary.

Hot Water for the Uncapping-Knife is part of R. C. Aikin's outfit for extracting honey. A pan 4 by 8 inches, and 3 inches deep, contains water heated by a small oil stove. G. M. Doolittle thinks with a sharp Bingham knife no heat is needed. This is the gist of two items mentioned in the Progressive Bee-Keeper.

Bee-Eggs by Mail.—J. F. Mundy reports that he received from Editor Pender (Australasian Bee-Keeper) by mail a small frame of eggs, and altho they remained in the post-office two days before he got them, they hatcht out all right, and he reared some good queens from them. The editor says the eggs should be sent the day they are laid.

A Storage-Tank for Extracted Honey is strongly urged by R. C. Aikin in the Progressive Bee-Keeper. He has one of five tons capacity of galvanized steel that cost him about $40. It saves his keeping on hand cans to the amount of about $100. Aside from the matter of expense, the tank is desirable to allow the honey to stand long enough for all impurities, such as bits of wax, to settle and be removed.

"A Perfect System for Managing Out-Apiaries in the production of extracted honey" is the somewhat pretentious title of an article by N. E. France in the Bee-Keepers' Review, the editor no doubt being responsible for the heading. After reading the article one is inclined to feel that the heading is not so very far out of the way, at least in so far as concerns the planning of work for the number of workers to the extent of six that go daily to the different out-apiaries, the whole seeming to be something like a daily picnic into the country. Editor Hutchinson was not idle with his camera when last visiting the Frances, so four half-tones illustrate the article.

The Honey-Bee the Horticulturist's Friend.—Prof. S. J. Hunter, entomologist of the Kansas State University, contributes a paper for the annual report of the Colorado Board of Horticulture for 1899, which is just received at this office. Prof. Hunter's subject is, "Some Entomological Problems in Horticulture." After enumerating many of the more injurious insects met by the horticulturist, he pays this worthy tribute to the honey-bee and its value to the fruit-grower:

> Let us note a friend, the honey-bee, which visits orchard, vineyard, strawberries, blackberries and raspberries, and brings about great results. It was formerly supposed that plants fertilized themselves, but it has been more recently shown that many plants are so constructed as to prevent self-fertilization. Nature has so constructed the plant itself that it is impossible in some cases for the pollen of its own anthers to fall upon the stigma of its own ovary, but the stigma is fertile to pollen brought from other flowers of the same species. It is the intention of nature that insects shall carry the pollen.
>
> During my field-work this season I had occasion to spend a short time in the vicinity of Rocky Ford, with Senator Swink, who is not only known to you, but to us who live outside of your State. He has been closely identified with

the melon-growing interest of the Arkansas valley in this State. Senator Swink noticed that the first blossoms on the melon-vines did not set, did not bear fruit, but that with the second or third blossoms there came a little wild bee to the blossom, and with its coming came melons also. Now, Senator Swink reasoned to himself, if that little bee can bring fruit to the second blossom, why not secure returns from the first blossoms? He distributed hives of bees among his melon-patches, and these bees have not only been fertilizers of melon-blossoms, doubling the average yield, but likewise they have furnisht annually much excellent honey, artistically and skillfully stored, as many of us know who have visited the Colorado horticultural apartments.

Be sure that there are sufficient bees in the neighborhood, or at least within two or three miles, to visit properly the blossoms. When possible, endeavor to favor the bees by selecting a sheltered situation for the orchard, or by planting windbreaks.

About a third of the pamphlet report from which the foregoing is taken, is devoted to a very full report of the last annual meeting of the Colorado State Bee-Keepers' Association.

Nuova Guida Pratica Per L'Apicoltore Novizio is the name of a book received at this office, said book being written by Carlo Perrucci. Lack of a knowledge of the Italian language causes a lack of a suitable notice such as the book no doubt deserves. Names of prominent apicultural writers in other countries than Italy, not omitting some from this country, shows that as a text-book in apiculture it is not intensely local. Figures being the same in Italian as in English, it is interesting to note that the book is up-to-date in giving 15 days instead of a longer time for the development of a queen.

Keeping Bees in India.—Mr. Sladen says in the British Bee Journal that altho Italians have been introduced into India, the climate does not seem adapted to them, and they have disappeared. He says:

> The only bee at present admitting of cultivation is *Apis mellifica*, variety *Indica*, various races of which occur in the hills and plains, and in Ceylon. It may be known roughly from honey-bees unsuited to cultivation by its medium size. The large bee, *A. dorsata* (about ⅝ inch long), and the small bee, *A. florea* (about 5/16 inch long), both of which build their combs *out in the open* from boughs of trees and shrubs, or from overhanging ledges of rocks, should be avoided except for experiment.

"Say What You Mean."—Mention was made on page 408 of instruction being given by an experienced writer to put a queen on top of a hive to introduce her, in which case it seemed that further particulars ought to have been given. The writer in question sends privately the following desired particulars, for which he will please accept thanks:

> EDITOR YORK:—With regard to that queen, I will say for your edification that she should have a bandana parasol held over her by a little girl drest in blue; and should have at least three pages, or four, who have been properly fed on sweets to fan her—keep her cool. When she issues from the cage she should have one or two of McKinley's Philippine warriors on hand to defend her in case some marauding Boer should conclude to do away with her majesty.
>
> There are a great many other things that might be said with regard to her, but you being a man conversant with bee-lore and various other things connected with the sale of supplies, will fully understand that a busy man has not time to tell all of these things in one letter.
>
> Wishing you success in your attempt to introduce this queen to a "hive," I am, Very truly yours,
>
> ——— — ———.

We fully endorse the instructions except as to one item—the "bandana parasol." Of course, a "bandana parasol" is all right, but the easy inference is that no other parasol would answer. m this opinion we must dissent. In all the cases in which we have tried parasols of different material, there seemed to be no advantage whatever in those of bandana. Of course, localities may differ, but we strongly suspect that the advantage of the bandana material is all in the imagination of our good friend.

The Weekly Budget

MR. A. I. ROOT, of The A. I. Root Company, called on us lately when in Chicago. He also went to see Dr. C. C. Miller.

* * * * *

MR. J. O. GRIMSLEY, of Overton Co., Tenn., Secretary of the National Queen-Breeders' Union, wrote us June 16th that they were having the "best honey season for several years. Bee-keepers are much encouraged."

* * * * *

MR. HARRY HOWE, of Cuba, wrote us recently that bees are starving where he is, and that there would be no honey until September. What with foul brood and starvation it would seem that bee-keeping is not all "a bed of posies" in Cuba.

* * * * *

MR. B. S. Taylor, of Riverside Co., Calif., dropt in to see us a week or two ago. He had been visiting relatives in Michigan. He keeps about 200 colonies of bees, but the honey prospects are not very flattering in his locality this year. Mr. Taylor went to California about 10 years ago for the good of his health, the doctors saying he could not live long. He has regained his health, and is doing nicely in his new home. California may not always have wonderful floods of honey, but it certainly has been able to do wonders for many in the way of restoring impaired health.

* * * * *

PROF. A. J. COOK, of Los Angeles Co., Calif., writing us June 25th, said this concerning the honey crop and prospects in California:

> "Altho this is a very dry season in California, yet we are getting a very good supply of honey. There will be a good deal more than the bees require for their own needs. It seems to depend much on the time the rains come whether a small rainfall brings a honey crop or not. The present season was very early, and the flowers have continued to bloom for a long time.
>
> "It will not be long before there will be large alfalfa fields in many parts of Southern California. This royal crop will be grown by irrigation, the water being pumpt. This will make a honey crop independent of the winter rainfall, as is now true in parts of the San Joaquin valley. This is one of the gains from the recent dry years. People have learned of the great and invaluable reservoir beneath the ground."

* * * * *

MR. C. P. DADANT, of Chas. Dadant & Son, leaves for the Paris Exposition July 12th, the very date of this issue of the American Bee Journal. One of his daughters will accompany him. Mr. Dadant bears with him a duly authorized certificate showing his appointment as a delegate to represent our National Bee-Keepers' Association at the congress of bee-keepers to be be held in Paris, Sept. 10th, 11th and 12th, or at any other meeting of bee-keepers which he may be able to attend while he is abroad. Certainly no other American bee-keeper could quite so well represent the bee-culture of United States in Paris as can Mr. C. P. Dadant. Being a native of France, and thoroly familiar with everything connected with bee-keeping the past 30 years or more, both in Europe and America, he is eminently qualified to represent the apiarists of his adopted country. And as he pays his own expenses, the National Association can only be the gainer all around.

All will unite with us in wishing Mr. Dadant balmy winds and a waveless sea—a pleasant voyage, and safe return.

H. G. Quirin, the Queen-Breeder,
Is as usual again on hand with his improved strain of
GOLDEN
ITALIAN QUEENS.

Our largest orders come from old customers, which proves that our stock gives satisfaction. We have 12 years' experience in rearing queens, and if there is any one thing we pride ourselves in, it is in sending all queens promptly BY RETURN MAIL. We guarantee safe delivery.

Price of Queens after July 1.	1	6	12
Warranted	$ .50	$ 2.75	$ 5.00
Selected warranted	.75	4.00	7.00
Tested	1.00	5.00	9.00
Selected tested	1.50	8.00	
Extra selected tested, the best that money can buy	3.00		

Address all orders to
H. G. QUIRIN, Parkerstown, Erie County, Ohio.
(Money Order Office, Bellevue, O.)
23A14t Please mention the Bee Journal.

IF YOU WANT THE
BEE-BOOK
That covers the whole Apicultural Field more completely than any other publisht, send $1.25 to Prof. A. J. Cook, Claremont, Calif., for his
Bee-Keepers' Guide.
Liberal Discounts to the Trade.

Best on Earth
What? Our New Champion Winter-Case. And to introduce it thruout the United States and Canada we will sell them at a liberal discount until Oct. 15, 1900. Send for quotations. We are also headquarters for the No-Drip Shipping-Cases.
R. H. SCHMIDT & CO.
Sheboygan, Wisconsin.
Please mention Bee Journal when writing.

BEE-SUPPLIES!
Root's Goods at Root's Prices
Pouder's Honey-Jars and everything used by bee-keepers. Prompt Service—low freight rate. Catalog free. WALTER S. POUDER,
512 Mass. Ave., Indianapolis, Ind.
Please mention Bee Journal when writing.

CHEAP FARM LANDS
Located on the Illinois Central R.R. in
SOUTHERN ILLINOIS
And also located on the Yazoo & Mississippi Valley R.R. in the famous
YAZOO VALLEY
of Mississippi—specially adapted to the raising of
CORN AND HOGS.
Soil Richest in the World.
Write for Pamphlets and Maps.
E. P. SKENE, Land Commissioner,
Ill. Cent. R.R. Co., Park Row, Room 413,
24A24t CHICAGO, ILL.
Please mention Bee Journal when writing.

GENERAL ITEMS

Bees Booming.

Bees are booming. I have but four colonies in condition to store surplus, but they are working on the third super. U. L. Pearson.

Ford Co., Ill., July 3.

White and Yellow Sweet Clover.

I saw a few stems of white sweet clover in bloom here June 22d. The yellow variety had then been in bloom just 3 weeks. My plat of the yellow is now in full bloom, and some of the seed is in the dough state. I have plants of the white sweet clover 4½ inches high from seed planted by me just a month ago. It is no trouble to make the seed grow all right if planted right. M. M. Baldridge.

Kane Co., Ill., June 26.

A Notable Bee-Keeper.

Years ago I reared Italian queens. About the year 1862 I paid Mr. Parsons, of Long Island, $50 for an Italian queen. I was living in California, and imported, in 1860, 66 colonies of bees from New York, by water, and sold to a Mr. Hay, 175 colonies for the same purpose. Of the 66 colonies, 60 arrived safely.

I knew Mr. Quinby quite well. I had in New York about 500 colonies of bees.

I commenced using the Langstroth hive in about 1857 or 1858, and I am using it still. I like it better than any other that I have ever tried. I take 4 bee-papers. P. V. Veeder.

Yolo, Co., Calif., June 25.

Introducing Queens—Cockroaches.

About May 15th I transferred an old colony from an old-fashioned hive to a new 9-frame hive. I could see no young brood and no sign of a queen or queen-cells; nothing but a little brood from laying workers.

I decided that there was no queen so I ordered one, which came all right. I examined the colony before introducing the queen and I found the bees all working, and lots of young brood on several frames doing well.

I had one more old colony which I transferred into two new hives, and put the new queen in one colony and the old queen in the other. They all went in with the new queen. Now comes the queer part of it:

Twelve days after they left the hive and brood a swarm issued and I put them in the same hive; three days after I took the sticks off the old brood was hatching out. Where was the queen in the first hive when I divided? Will brood live 12 days without any bees to keep it warm?

I saw an article on page 385 of this journal about enameled cloth. I bought two colonies that had enameled cloth for covering, and the underside of the cloth was just alive with cockroaches. I took the cloth off, did not put on any honey-board, and let them freeze out.

Sharples Cream Separators: Profitable Dairying

Belgian Hares!
IMPORTED
Pedigreed Stock!
Does bred to imported Bucks, $25.00 and up. Young from imported, $6.00 and up.
J. RAMSPERGER,
758 Bryn Mawr Ave., CHICAGO, ILL.
Please mention Bee Journal when writing.

DITTMER'S FOUNDATION Wholesale and Retail
This foundation is made by an absolutely non-dipping process, thereby producing a perfectly clear and pliable foundation that retains the odor and color of beeswax, and is free from dirt.
Working wax into foundation for cash, a specialty. Write for samples and prices.
A full line of Supplies at the very lowest prices, and in any quantity. Best quality and prompt shipment. Send for large, illustrated catalog.
GUS. DITTMER, Augusta, Wis.
Beeswax Wanted.
Please mention Bee Journal when writing.

PATENT WIRED COMB FOUNDATION
Has no Sag in Brood-Frames.
Thin Flat-Bottom Foundation
Has no Fishbone in the Surplus Honey.
Being the cleanest is usually workt the quickest of any foundation made.
J. A. VAN DEUSEN,
Sole Manufacturer,
Sprout Brook, Montgomery Co., N.Y.
Please mention Bee Journal when writing.

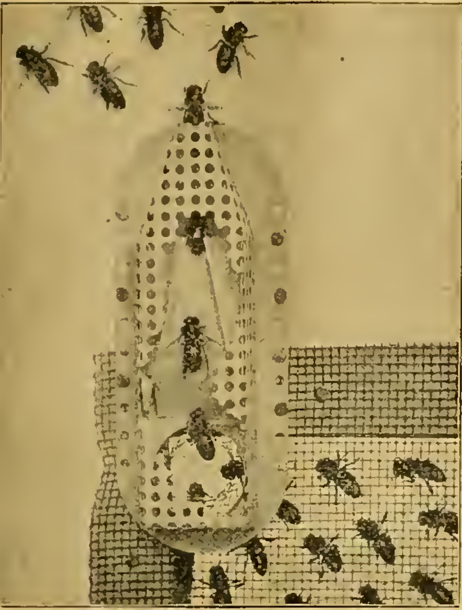
Bees for Sale PRIME STOCK. NO DISEASE.
Write for prices. H. Lathrop, Browntown, Wis.
26A4t Please mention the Bee Journal.

M. H. HUNT & SON,
SELL ROOT'S GOODS AT ROOT'S PRICES.
Our inducements are first-class goods, cheap freight rates, and prompt shipments. Send for catalog. Bell Branch, Mich.
Please mention Bee Journal when writing.

The Emerson Binder
This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.
GEORGE W. YORK & CO.
118 Michigan Street, CHICAGO, ILL.

GINSENG We are Headquarters for Seed & Plants.
Valuable book about it, telling how to grow thousands of dollars worth, what used for and who is growing it. Sent for 10c
AMERICAN GINSENG GARDENS, ROSE HILL, New York.
20E8t Mention the American Bee Journal.

The Porter Spring Honey-House Escape

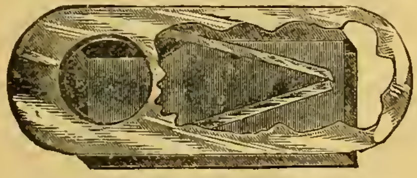


Shown in use on a window screen, reduced in size one-half, and having a part of the exterior broken away to give a view of the springs, is a perfect device for getting the bees out of extracting-rooms, house-apiaries, piles of supers, etc. It permits the bees to pass out thru it easily and rapidly, yet it absolutely prevents their return or the entrance of the most persistent robbers. Without a trial it is difficult to realize its value to the apiarist.

Mr. Kretchmer says of it: "I hasten to express to you my admiration for an article I have been waiting for so long a time. It is just the thing." And all who have used it similarly commend it.

DIRECTIONS.—Tack the escapes as shown in the engraving over holes puncht thru the wire cloth at the upper corners of each window on which they are to be used, or over holes bored wherever convenient, if the enclosure is without windows.

PRICES: Each, 25c; per dozen, $2.75, postpaid.



The Porter Spring Hive-Escape for getting the bees out of the super automatically before removal from the hive, which is similar to the escape shown above, is one of the most popular and useful apicultural implements of the day, and its friends have been gained by substantial merit alone. At the Columbian Exposition it won the highest and only award given an escape. Leading bee-keepers the world over use these escapes and give them their unqualified endorsement. Directions for use with each escape.

A Few Extracts from Testimonials:

They are perfect in action.—British Bee Journal.

I would not do without them if they cost $5.00 apiece.—Wm. Muth-Rasmussen, Independence, Calif.

Bee-men are certainly behind the times if they can afford to use them and do not.—M. H. Mendleson, Ventura, Calif.

We cannot too highly recommend them. We intend to use them in all our apiaries hereafter.—Chas. Dadant & Son, Hamilton, Ill.

I have 85 of them in use and don't see how I could possibly get along without them.—John Nippert, Phœnix, Ariz.

The most sting-proof bee-keeper will appreciate the Porter Bee-Escape with the first attempt and place it among the indispensables of the apiary.—Chas. F. Muth, in American Bee Journal.

The Porter Bee-Escape clears the super of bees so quickly and perfectly and easily that it makes the taking-off of honey a pleasure instead of a dread as in former years.—G. M. Doolittle, Borodino, N. Y.

PRICES: Each, 20c; per dozen, $2.25, postpaid.

Order of your dealer, or of

THE A. I. ROOT CO., Medina, Ohio,
General Agents for the U. S.

They wintered well, and this spring when I transferred them not a roach was to be found.

I set each hive on a bench two feet high and two feet square, with a tight board fence on the north and west sides and cover. C. E. MINKLER.

Chemung Co., N. Y., July 1.

Good Prospect for Basswood.

My bees came thru the spring rather weak in numbers, as I lost about one colony in ten during the winter and spring. The past winter was the hardest one on bees for 30 years, with me. It is raining, and the bees can't do anything today, but the honey-flow has been good for 15 or 18 days from locust and poplar, tho there were not half enough bees to collect it all. Bees are in good condition now, and the prospect for the basswood bloom in this county was never better. I hope we will have good weather when it begins to bloom, which will be about the first of July. A. J. MCBRIDE.

Watauga Co., N. C., June 16.

Bees Doing Well.

Bees are doing a very good business at present, but we need rain very badly, as everything is drying up. I have 64 colonies all in good condition, and have already taken off some nice section honey. I have lots more almost capt. JOHN J. COX.

Chippewa Co., Wis., June 29.

A Busy Bee-Keeper.

With 24 colonies of bees that have cast 22 swarms, all successfully hived, besides two from somewhere unknown; putting up all my supplies myself, and running a jewelry store with a good line of repairing done by me, keeps me busy. Bees are doing well.

E. L. DUNHAM.

Weld Co., Colo., July 2.

No Swarms and Little Honey.

I have had no swarms and there is no immediate prospect of any. Bees are getting enough to live on from white clover. We generally get surplus honey here from goldenrod.

O. C. MASTIN, M.D.

Holt Co., Nebr., June 25.

Dry Weather and No Honey.

Bees are in fine condition, very few swarms, and white clover is abundant, but the dry weather has cut us out of a good yield of honey. C. ZOLL.

Marion Co., Ill., July 2.

Finding the Queen.

I read recently an article by Mr. Root telling how he finds queens. I find that the best way for me to find those black queens (the kind that will run all over the hive and hide in the corner or under the bottom-bars), is to put a super on top if the hive has none on, and smoke and drum them up into it; then place an empty super (with perforated zinc nailed to the bottom), on top of the hive, putting the super containing the bees on top of the one with the perforated zinc bottom, and the work is done. I hardly ever miss a queen—always find her on the zinc trying to

California Queens.

OF PURE ITALIAN STOCK.
(THREE-BANDED.)
No other bees within a radius of TEN MILES. Eight years' experience in practical bee-keeping. Untested Queens, 90 cts. each; $9 per doz. Discounts after July 1. Write for price-list.
18A13t H. L. WEEMS, Hanford, Calif.

Please mention Bee Journal when writing.

PAGE

YES, WE HAVE
a deal of competition in prices, but not in quality.
PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.

Please mention Bee Journal when writing.

Queens! UNTESTED ITALIAN, 50 cents each; tested, $1 each. Queens large, yellow and prolific. Circular free.
21Atf Address, E. W. HAAG, Canton, Ohio.

Please mention Bee Journal when writing.

Yellow Sweet Clover Seed

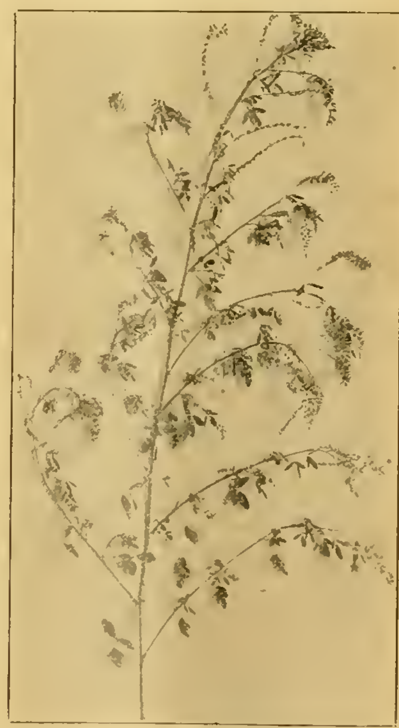
WE HAVE IT AT LAST!

We have finally succeeded in getting a SMALL quantity of the seed of the YELLOW variety of sweet clover. This kind blooms from two to four weeks earlier than the common or white variety of sweet clover. It also grows much shorter, only about two feet in hight. It is as much visited by the bees as the white, and usually comes into bloom ahead of white clover and basswood. We offer the seed as a premium

A QUARTER POUND FOR SENDING ONE NEW SUBSCRIPTION.

So long as it lasts, we will mail a quarter pound of the seed to a regular paid-up subscriber who sends us ONE NEW subscriber for the American Bee Journal one year, with $1.00; or ¼ pound by mail for 30 cents.

We have been trying for years to secure this seed, and finally succeeded in getting it. It is



Yellow Sweet Clover in Bloom.

new seed, gathered last season by an old personal friend of ours, so we know it is all right. But we have only a small supply. When nearly out we will mention it.

GEORGE W. YORK & CO.,
118 Michigan St., - CHICAGO, ILL.

The Bee-Keeper's Guide
Or, Manual of the Apiary,
—BY—
PROF. A. J. COOK.

460 Pages—16th (1899) Edition—18th Thousand—$1.25 postpaid.

A description of the book here is quite unnecessary—it is simply the most complete scientific and practical bee-book publisht to-day. Fully illustrated, and all written in the most fascinating style. The author is also too well-known to the whole bee-world to require any introduction. No bee-keeper is fully equipt, or his library complete, without THE BEE-KEEPERS' GUIDE.

This 16th and latest edition of Prof. Cook's magnificent book of 460 pages, in neat and substantial cloth binding, we propose to GIVE AWAY to our present subscribers, for the work of getting NEW subscribers for the American Bee Journal.

Given for TWO New Subscribers.

The following offer is made to PRESENT subscribers only, and no premium is also given to the two NEW subscribers—simply the Bee Journal for one year:

Send us TWO NEW SUBSCRIBERS to the Bee Journal (with $2.00), and we will mail you a copy of Prof. Cook's book FREE as a premium. Prof. Cook's book alone sent for $1.25, or we club it with the Bee Journal for a year—both for only $1.75. But surely anybody can get only TWO NEW SUBSCRIBERS to the Bee Journal for a year, and thus get the book as a premium. Let every body try for it. Will YOU have one?

GEORGE W. YORK & CO.,
118 Michigan Street, CHICAGO, ILL.

BY RETURN MAIL.
Golden Beauty Italian Queens,
Reared from imported mothers.

Untested, 50 cts.; 12 Untested, $5.50; Tested, $1.
J. S. TERRAL & CO., Lampasas, Texas.
18Atf Please mention the Bee Journal.

get thru. I can get the queen in this way quicker than I can tell by writing. I give them plenty of smoke, using excelsior for fuel as it gives plenty of smoke quickly, and I have no trouble in getting the queens. I usually smoke them up at night and take the queen away in the morning.

We have had dry weather here since fruit-bloom, and it now looks as if we would get little honey this summer. It is not much work to care for the bees, as they get enough to feed themselves, and that is about all. I hope to see some more honey coming in later on.

O. F. SNOW.

Barnstable Co., Mass., July 2.

Severe Drouth—No Clover Honey.

We have had a severe drouth here up to date, but had a nice rain this morning, with the promise of more. We will get no clover honey in this part of the State, but hope for a little basswood. Bees just began to work on it yesterday—July 1st.

Bees are in fine condition. Feed in the pastures is short and brown, and our cows are shrinking in their milk.

B. T. DAVENPORT.

Green Lake Co., Wis., July 2.

"Apis Mellifica" for Bee-Stings.

Several times I have noticed in bee books and papers discussions of remedies for bee-stings, and so far as I can see no one seems to have hit it yet. The homeopathic schools use a medicine called *Apis mellifica*, made from the poison of the bee, and used for swellings, inflammations, etc. I can stand the hurt all right, but I hate to be all swelled up, and if this is taken *before a sting begins to swell* it never swells at all. I have used this for about a year, and it never fails me when I take it in time:

One tablet of the 2d trituration is a

$5.00 per month will pay for medical treatment for any reader of the American Bee Journal. This offer is good for 3 months ONLY—from May 1 to Aug. 1. Dr. Peiro makes this special offer to test the virtue of small price for best medical services. Reply AT ONCE.

DR. PEIRO.
34 Central Music Hall, CHICAGO.

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The Mississippi Valley Democrat
—AND—
Journal of Agriculture,
ST. LOUIS MO.

A wide-awake, practical Western paper for wide-awake, practical Western farmers, stock-raisers, poultry people and fruit-growers, to learn the science of breeding, feeding and management. Special departments for horses, cattle, hogs, sheep, poultry and dairy. No farmer can afford to do without it.

It stands for American farmers and producers. It is the leading exponent of agriculture as a business, and at the same time the champion of the Agricultural States and the producer in politics. **Subscription, One Dollar a Year.**

☞ **Write for Sample Copy**

Adel Queens, $1 Each.

Send postal for dozen rates and description of bees. **HENRY ALLEY, Wenham, Mass.**
23Atf Mention the American Bee Journal.

Seasonable Offerings **Golden Yellow Italian Queens**

Now is the time to improve your strain of bees. The Queens I offer are the finest in the land. I sold quite a number this season and all are delighted with the quality and so will you be, at 75 cents each, by return mail.

60-pound Cans, two to Crate.

I have 400 crates of two 60-pound cans each that were used once, and are nearly as good as new. I offer until this lot is exhausted at 50c per crate, or 10 crates at 45c each. New crates of two 60-pound cans each cost 85c. Speak quick. Root's goods at Root's prices, also Muth's Jars. Send for Catalog. HONEY AND BEESWAX WANTED. **C. H. W. WEBER,**
2146 Central Ave., Cincinnati, Ohio.

ARE YOU FULL OF GINGER? If you want health and vigor, good appetite and sound sleep, take **LAXATIVE NERVO-VITAL TABLETS,** the quick and safe cure for Constipation, Nervous Dyspepsia, Insomnia, Nervous Affections, the "Blues" and all attendant evils. It aids digestion, purifies the blood, strengthens the nerves, improves the appetite, induces sweet sleep, tones up the whole system and makes you a new creature. It not only makes you *feel* well, it makes you *really* well. It gives you that vim and vigor which makes life worth living.

LAXATIVE NERVO-VITAL TABLETS

It contains no narcotics nor bromides nor other injurious drugs. We give the formula with every box. You know exactly what you are taking. Originally put up for physicians' use. Ask your druggist for a

FREE SAMPLE. If he hasn't it, don't take a substitute, but send us a stamp for our book on "Health" and we will send you a free sample, sufficient for you to try it and test its merits to your own satisfaction. *Isn't it worth trying free?* It positively cures. Price 10c and 25c per box. Don't delay sending.

The Modern Remedy Co., Kewanee, Ill.

good dose. Repeat in 10 minutes, and again in 20 minutes. After that every half hour for eight or ten doses. When I start to work without a veil I sometimes take a dose, and then my blood is all ready for a sting if it comes.

E. A. Lewis.

Montcalm Co., Mich.

Yellow Sweet Clover Valuable.

Yellow sweet clover was in bloom here June 1st, and probably several days earlier. The ordinary white variety did not bloom in that neighborhood until June 21st, tho a few blossoms were seen about a mile away June 13th. The bees workt well on it from the start. Basswood bloomed June 21st.

It is safe to say that yellow sweet clover is three weeks earlier than white sweet clover, or than basswood, which in my opinion should make it very valuable to the bee-keeper in a sweet clover country.

J. A. Green.

Lasalle Co., Ill., June 25.

Honey a Short Crop.

Honey here is going to be a short crop. There has been lots of white clover, but cool nights and rainy weather kept the bees from storing honey, and they have visited the white clover but very little. All colonies seem to be in good condition, but have stored no surplus.

R. R. Ryan.

Marion Co., Oreg., June 26.

Plain Sections and Fences.

Please have a few *responsible* bee-keepers reply to this:

Can more honey be produced with plain sections and fences than with the old style sections? If so, why?

To the point—no hedging around.

Walker Co., Ala. R. V. Goss.

[We should be pleased to publish a few replies to the above from those who really have had sufficient experience to be competent to say.—Editor.]

A Report and an Experience.

Last year was such a poor season here that I did not think it worth while to report. Our bees wintered well, with scarcely any loss, and came out in the spring very strong. I now have 24 colonies, two natural and four artificial swarms. I am Italianizing as fast as I can. The bees are storing some honey in the supers. We had a dry spell that almost proved serious for the bees, but the abundance of rain we are now having makes the apiary musical with the joyful hum of the bees.

I have had a little experience that baffles my bee-ology. Some time ago I made a colony queenless with no brood young enough to rear a queen from, so I gave them a good, ripe queen-cell, and a few days later lookt at the cell and thought it was torn down by the bees. I then grafted in a piece of brood-comb three inches square, and they at once commenced three queen-cells, proving that they certainly did tear down the cell.

Then on the 12th day I lookt for results. I found one cell opened by a queen just hatcht, and to my astonishment I found brood in three stages—

SPECIAL NOTICE!

Last winter's cut of basswood is the whitest it has been for many seasons. We are now making sections out of this new stock and therefore are in a position to furnish you with the very finest quality in the market.

LEWIS WHITE-POLISHT SECTIONS

Are perfect in workmanship and color.

Orders shipt immediately upon receipt. A complete line of everything needed in the apiary. Five different styles of Bee-Hives.

Lewis Foundation Fastener simplest and best machine for the purpose. Price, ONE DOLLAR, without Lamp.

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Fred Foulger & Sons...........Ogden, Utah.
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Four Celluloid Queen-Buttons Free

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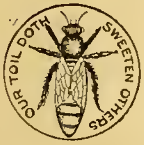

OUR TOIL DOTH SWEETEN OTHERS

OUR TOIL DOTH SWEETEN OTHERS

For sending us ONE NEW SUBSCRIBER to the Bee Journal for the balance of this year, with 50 cents, we will mail you FOUR of these pretty buttons for wearing on the coat-lapel. (You can wear one and give the others to the children.) The queen has a golden tinge. This offer is made only to our present regular subscribers.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate, it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

Prices of Buttons alone, postpaid: One button, 8 cts.; 2 buttons, 6 cts. each; 5 or more, 5 cts. each. (Stamps taken.) Address,

GEORGE W. YORK & CO., 118 Michigan St., CHICAGO.

QUEENS!

Untested Queens, Italian, 60 cents. Tested, $1.00.
From honey-gathering stock.
We keep in stock a full line of popular Apiarian Supplies. Catalog free.

Apiaries—Glen Cove, L. I. I. J. STRINGHAM, 105 Park Place, New York, N. Y.

Please mention Bee Journal when writing

A HANDY TOOL-HOLDER!

Sent by Express, for $1.50; or with the Bee Journal one year—both for $2.00.

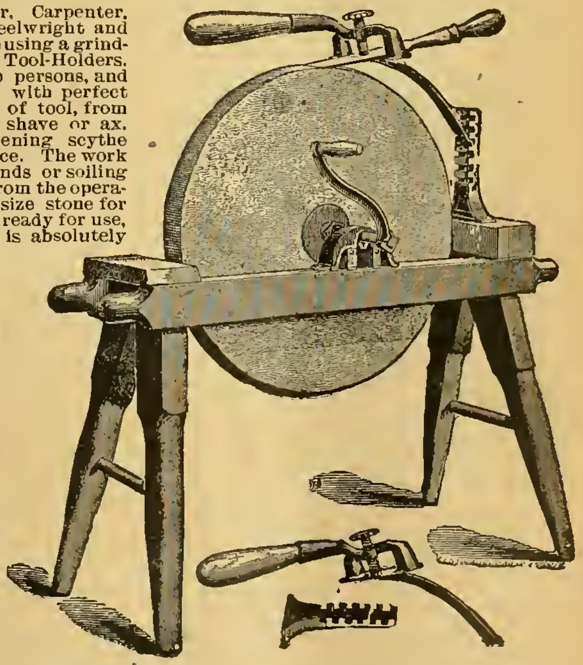
Every Manufacturer, Miller, Carpenter, Cabinet Maker, Machinist, Wheelwright and Quarryman, Farmer, or any one using a grindstone, should have one of these Tool-Holders. One boy can do the work of two persons, and grind much faster, easier and with perfect accuracy. Will hold any kind of tool, from the smallest chisel to a draw shave or ax. Extra attachment for sharpening scythe blades included in the above price. The work is done without wetting the hands or soiling the clothes, as the water flows from the operator. It can be attached to any size stone for hand or steam power, is always ready for use, nothing to get out of order, and is absolutely **worth 100 times its cost.**

No farm is well-equipped unless it has a Tool-Holder. Pays for itself in a short time.

How to Use the Holder.

Directions.—The Tool is fastened securely in the Holder by a set-screw and can be ground to any desired bevel by inserting the arm of the Holder into a higher or lower notch of the standard. While turning the crank with the right hand, the left rests on an steadies the Holder; the Tool is moved to the right or left across the stone, or examined while grinding, as readily and in the same way as if held in the hands.

For grinding **Round-Edge Tools,** the holes in the standard are used instead of the notches.



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High Grade Italian Queens

One Untested Queen	$ .60
One Tested Queen	.80
One Select Tested Queen	1.00
One Breeder	1.50
One-Comb Nucleus	1.00

27 Years Rearing Queens for the Trade.

We Guarantee Safe Arrival.

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Untested Queens	$0.90	$2.50	$4.50
Select Untested Queens	1.25	3.25	6.00
Tested Queens	1.25	3.50	7.00
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These Queens are reared from honey-gatherers. Orders filled in rotation. Nothing sent out but beautiful Queens.
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MAKE A GOOD WAGON.
Unless a wagon has good wheels it is useless. THE ELECTRIC STEEL WHEELS are good wheels and they make a wagon last indefinitely. They are made high or low, any width of tire, to fit any skein. They can't get loose, rot or break down. They last always. Catalog free.
Electric Wheel Co., Box 16 Quincy, Ills.
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Second-Class Queens,

(What Becomes of Them?)

As to color of progeny there are some tested queens that are second-class, that are equal to any for business. That is, 3-band bees predominate in the offspring of golden mothers. These are sold at 50 cents each. If 5-band bees predominate, and do not exceed 80 percent, they are worth $1.00; above this and not to exceed 95 percent, $1.25; all of a higher grade and not uniformly markt, $1.50 each; while first-class breeders are placed at only $2.00.

Untested, either 3 or 5-band, 75c each; or 3 for $2.00. Money order office, Warrenton, N. C.

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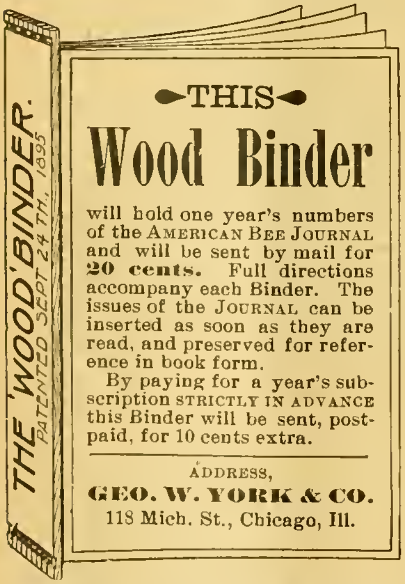

THIS
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will hold one year's numbers of the AMERICAN BEE JOURNAL and will be sent by mail for **20 cents.** Full directions accompany each Binder. The issues of the JOURNAL can be inserted as soon as they are read, and preserved for reference in book form.

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eggs, larvæ, and sealed. The next day I also found the young queen that had just hatcht a day or two before. Now, the conclusion must be this: That the first queen-cell I gave them must have hatcht, and the queen was laying, and permitted another queen to be reared. Of course, "I don't know."

H. W. HECHLER.
Keokuk Co., Iowa, June 28.

BEEDOM BOILED DOWN

Smoking Bees Out of Sections.—The following is given by F. L. Thompson in the Progressive Bee-Keeper, along with which should be the caution that too much smoke affects the taste of the honey:

"To remove the bees from a section super, Mr. R. D. Willis uses a box without a top, on which the super just fits. A hole at one end admits the nozzle of the smoker. When the super is set on and smoke pumpt in, nearly all the bees find it impossible to remain, and the few left eventually leave thru the window-escape of the honey-house."

Non-Swarming—The Most Hopeful Field.—I believe the most hopeful field for commercial bee-keeping lies in the improvement of the stock, in the direction of non-swarming. There are some strains of bees not so much addicted to swarming as others. Take such a strain and use every means available to prevent swarming, breeding always from colonies that are not inclined to swarm, and I believe you will, in time, have a non-swarming strain of bees. Bees have, in times past, been bred mostly from the worst swarmers; it is the easiest way to get good queens and increase for those who do not make a business of bee-keeping; but I think the time is coming when those making a business of bee-keeping will reverse this practice, and breed from those that *don't* swarm. Now, I will have to plead guilty to the charge of breeding from swarming colonies myself. I was, like all beginners, anxious for increase, and glad to have them swarm. I soon saw, however, that the colonies that did not swarm were a good deal the most profitable in honey; so I have reared a few queens from some that did not swarm, and they were away ahead of the average bees. The worst year for swarms that I have seen, about one-third of mine run for comb honey did not swarm. Other years I have had from none to 8 or 10 swarms from 30 to 50 colonies. But each season the bees have to be watcht, and this watching is what we want to do away with.

There are many plans of dividing and uniting in the fall, and thus keeping down increase after a fashion, but we want the whole force of one queen to stay together thru the honey-flow in order to get good crops of fancy comb honey.

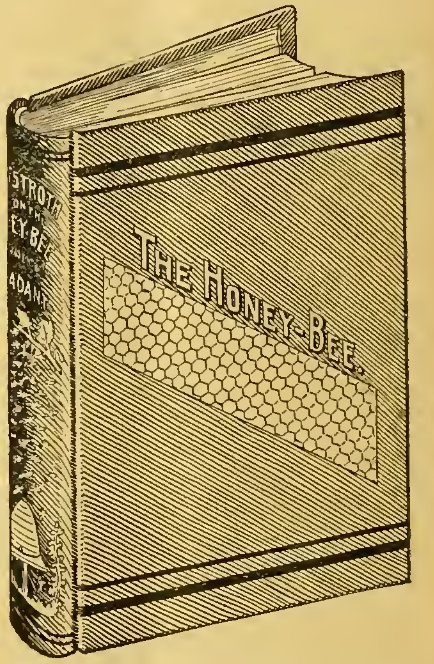
How to do this without any one on hand to watch for swarms is, in my judgment, the greatest problem now before the bee-keeping fraternity.—E. S. MILES, in Bee-Keepers' Review.

Langstroth on... The Honey-Bee

Revised by Dadant—1899 Edition.

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains over 500 pages, being revised by those large, practical bee-keepers, so well-known to all the readers of the American Bee Journal—Chas. Dadant & Son. Each subject is clearly and thoroly explained, so that by following the instructions of this book one cannot fail to be wonderfully helpt on the way to success with bees.

The book we mail for $1.25, or club it with the American Bee Journal for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THE HONEY-BEE

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This is a splendid chance to get a grand bee-book for a very little money or work.

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MARQUETTE, ON LAKE SUPERIOR,

is one of the most charming summer resorts reacht via the Chicago, Milwaukee & St. Paul Railway.

Its healthful location, beautiful scenery, good hotels and complete immunity from hay fever, make a summer outing at Marquette, Mich., very attractive from the standpoint of health, rest and comfort.

For a copy of "The Lake Superior Country," containing a description of Marquette and the copper country, address, with four (4) cents in stamps to pay postage, Geo. H. Heafford, General Passenger Agent, Chicago, Ill.

Admirable Advice to Advertisers from "Agricultural Advertising."

Business men can not learn too much about advertising. If you are too busy with other branches to attend to your advertising yourself, the more you know about advertising and its methods and results the better you will be able to judge the ability of the advertising man you employ, and the results of his work.—The Ad Writer.

Profit from advertising depends not so much upon the number of inquiries received as upon the way in which they are handled. A hundred inquiries properly followed up are often of more value than a thousand replies which receive no more attention than the mere sending of a booklet, often a poor one at that.—Advertising Experience.

Possibly the best way to place the good qualities of your stock before the public is to get up a neat pamphlet containing sufficient useful information about the stock you are breeding to make it desirable to intending purchasers. This booklet is advertised, and either offered free or a slight charge is placed upon it to cover postage, which keeps away the simply curious. In such a book much more can be said and more cheaply than by writing letters.—E. J. W. Deitz.

You wouldn't expect to plant a seed, never go near it again and expect it to bear fruit. Yet that's the way a great many people do advertising—simply put in the first copy that comes to them, run it week after week without change, and expect it to accomplish more than all the salesmen. Advertising properly done will work wonders in a business-bringing way, but, like a growing plant, it requires careful attention.—The Wheel.

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(*Cleome integrifolia.*)

...FREE AS A PREMIUM...

The A B C of Bee-Culture says of it: "This is a beautiful plant for the flower-garden, to say nothing of the honey it produces. It grows from two to three feet in hight and bears large, clusters of bright pink flowers. It grows naturally on the Rocky Mountains, and in Colorado, where it is said to furnish large quantities of honey."

We have a few pounds of this Cleome seed, and offer to mail a ¼-pound package as a premium for sending us ONE NEW subscriber to the American Bee Journal, with $1.00; or ¼ pound by mail for 40 cents.

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Bees and Honey, or Management of an Apiary for Pleasure and Profit, by Thomas G. Newman.—It is nicely illustrated, contains 160 pages, beautifully printed in the highest style of the art, and bound in cloth, gold-lettered. Price, in cloth, 75 cents; in paper, 50 cents.

Langstroth on the Honey-Bee, revised by Dadant.—This classic in bee-culture has been entirely re-written, and is fully illustrated. It treats of everything relating to bees and bee-keeping. No apiarian library is complete without this standard work by Rev. L. L. Langstroth—the Father of American Bee-Culture. It has 520 pages, bound in cloth. Price, $1.25.

Bee-Keepers' Guide, or Manual of the Apiary, by Prof. A. J. Cook, of the Michigan Agricultural College.—This book is not only instructive and helpful as a guide in bee-keeping, but is interesting and thoroly practical and scientific. It contains a full delineation of the anatomy and physiology of bees. 460 pages, bound in cloth and fully illustrated. Price, $1.25.

Scientific Queen-Rearing, as Practically Applied, by G. M. Doolittle.—A method by which the very best of queen-bees are reared in perfect accord with Nature's way. Bound in cloth and illustrated. Price, $1.00.

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Dr. Howard's Book on Foul Brood.—Gives the McEvoy Treatment and reviews the experiments of others. Price, 25 cents.

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Capons and Caponizing, by Dr. Sawyer, Fanny Field, and others.—Illustrated. All about caponizing fowls, and thus how to make the most money in poultry-raising. 64 pages. Price, 20c.

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Smokers, Sections,
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FREE Catalogue. E. T. FLANAGAN, Belleville, Ill.
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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, July 7.—Some new white comb honey is selling at 15c; not much offered and not much demand for it. Extracted is slow sale; best white, 7@7½c; best amber, 6½@6¾c; dark amber, 5@5½c. Beeswax, 27@28c.
R. A. BURNETT & Co.

CINCINNATI, July 2.—This market is completely bare of comb honey. The demand for extracted honey is good. Several good shipments of extracted honey from Mississippi and Arkansas have arrived and found a ready sale at 6½@7½c. No white clover honey on the market; same would bring about 8c. Beeswax, 25@26c.
C. H. W. WEBER, 2146 Central Ave.

KANSAS CITY, June 20.—We quote: No. 1 white comb, 14@15c; No. 1 amber, 13@14c; No. 2 white and amber, 13@13½c. Extracted, white, 7½@8c; amber, 7c. No beeswax in the market.

We have a shipment of new comb honey in transit from Florida. The supply of old comb honey is very light, mostly candied.
C. C. CLEMONS & Co.

DETROIT, May 24.—Fancy white comb, 15@16c; No 1, white, 14@15c; amber and dark, 10@12c. Extracted, white, 7c; amber and dark, 5@6c. Beeswax, 25@26c.

Supply and demand for honey both limited.
M. H. HUNT & SON.

NEW YORK, May 21.—Our market is practically bare of comb honey, and there is a good demand for white at from 13@15c per pound, according to quality and style of package. The market on extracted is rather quiet, and inactive. New crop is slow in coming in, and prices have not yet been establisht. Beeswax holds firm at 27@28c. HILDRETH & SEGELKEN.

SAN FRANCISCO, June 6.—White comb, 11½@12½c; amber, 8@10c. Extracted, white, 6½@7c. light amber, 6@6½c; amber, 5@5½c; Beeswax, 26@27c.

There is not much honey on market, either old or new. Small quantities of new comb and extracted are going to local trade at comparatively stiff values. In some instances, especially for comb, an advance on best figures warranted as a quotation are being realized. To secure export orders, however, of anything like wholesale proportions, prices above noted would have to be materially shaded.

WANTED—HONEY AND BEESWAX.
We have a tremendous and growing trade in this line, and would like to hear from all who have such goods to sell in any part of the country, with quality, description, and lowest cash price. THOS. C. STANLEY & SON, Fairfield, Ill.

WANTED COMB HONEY AND EXTRACTED HONEY. Will buy your honey, no matter what quantity. Mail sample with your price expected delivered in Cincinnati. I pay cash on delivery. C. H. W. WEBER, 2146 Central Ave., CINCINNATI, OHIO.

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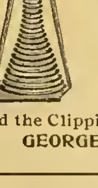

The MONETTE Queen-Clipping Device is a fine thing for use in catching and clipping Queens wings. We mail it for 25 cents; or will send it FREE as a premium for sending us ONE NEW subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,

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Bee-Keepers' Photograph.—We have now on hand a limited number of excellent photographs of prominent bee-keepers—a number of pictures on one card. The likeness of 49 of them are shown on one of the photographs, and 121 on the other. We will send them, postpaid, for 30 cts. a card, mailing from the 121 kind first; then after they are all gone, we will send the 49 kind. So those who order first will get the most "faces" for their money. Send orders to the Bee Journal office.

We have a Large Stock on hand and can ship promptly.

SEND US YOUR ORDERS FOR

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Our Falcon Sections and New Process Foundation are ahead of everything, and cost no more than other makes. New Catalog and copy of THE AMERICAN BEE-KEEPER free. Address,

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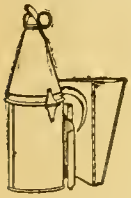
BINGHAM BRASS SMOKERS

made of sheet-brass which does not rust or burn out should last a life-time. You need one, but they cost 25 cents more than tin of the same size. The little pen cut shows our brass hinge put on the three larger sizes.



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The perforated steel fire-grate has 381 holes to air the fuel and support the fire.

Prices; Heavy Tin Smoke Engine, four-inch Stove, per mail, $1.50; 3½-inch, $1.10; three-inch, $1.00; 2½-inch, 90 cents; two-inch, 65 cents.

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has concluded to sell QUEENS in their season during 1900, at the following prices:

1 Untested Queen	$1.00
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1 Tested Queen	1.25
3 Tested Queens	3.00
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Select Tested Queen, last year's rearing	2.50
Extra selected breeding, the very best	5.00

Circular free, giving particulars regarding each class of Queens, conditions, etc. Address,

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23rd Year Dadant's Foundation. 23rd Year

Why does it sell so well?

Because it has always given better satisfaction than any other.

Because in 23 years there have not been any complaints, but thousands of compliments.

We guarantee satisfaction.

What more can anybody do? BEAUTY, PURITY, FIRMNESS, No SAGGING, No LOSS. PATENT WEED PROCESS SHEETING.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

BEE-KEEPERS' SUPPLIES OF ALL KINDS.

Langstroth on the Honey-Bee, Revised.

The Classic in Bee-Culture—Price, $1.25, by Mail.

Beeswax Wanted at all times.

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California! If you care to know of its Fruits, Flowers, Climate or Resources, send for a sample copy of California's Favorite Paper—

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The leading Horticultural and Agricultural paper of the Pacific Coast. Published weekly, handsomely illustrated, $2.00 per annum. Sample copy free.

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If you are interested in Sheep in any way you cannot afford to be without the best Sheep Paper publisht in the United States.

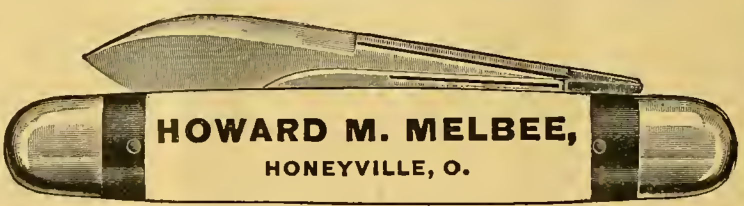
Wool Markets and Sheep

has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.

WOOL MARKETS AND SHEEP, CHICAGO, ILL.

The Novelty Pocket-Knife.

Your Name and Address on one side—Three Bees on the other side.



[THIS CUT IS THE FULL SIZE OF THE KNIFE.]

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and in case of death, your relatives will at once be notified of the accident.

How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

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GEORGE W. YORK, Editor.

AMERICAN BEE JOURNAL

ESTABLISHT IN 1861 OLDEST BEE-PAPER IN AMERICA

DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS.

40th YEAR. CHICAGO, ILL., JULY 19, 1900. No. 29.

Mr. and Mrs. J. W. Hubbel and Apiary, of Clark Co., Wis.

Two Clark Co., Wis., Apiaries.

MR. Harry Lathrop, of Green County, about a year ago, visited a number of apiaries in Wisconsin, among them the two shown on this page. Afterward he wrote up his trip for the Wisconsin Agriculturist, from which we take these paragraphs:

"Peter J. Klein has an apiary of about 40 colonies. His principal honey-plants are dandelions, white clover, raspberries, basswood and asters. He informed me that in 1894 he took 900 pounds of comb honey from 3 colonies and increast them to 9. The honey was nearly all taken late in the fall from asters.

"Mr. Klein showed me a building made with double walls which he had constructed for the purpose of wintering his bees, but it was not a success, so he used it for a workroom and used his dwelling-house cellar for a winter repository. I have seen quite a number of such buildings and in most cases they have been put to other uses than that for which they were constructed. It requires very thick walls to make a building that will maintain an even temperature above ground. I saw such a building that is a success as a winter repository. It was built by H. R. Boardman, of Ohio. The walls are about 14 inches thick.

"After a few pleasant hours spent with Mr. Klein, during which time I was taken out in the great forest to examine the various honey-plants, he kindly provided a horse and buggy and together we went on to the home and apiary of John Hubbel. Mr. and Mrs. Hubbel are both enthusiastic bee-keepers and have an apiary of 110 colonies all in good condition. With them, as with most others, the honey crop for 1899 was quite light, but they, like most bee-keepers, are of a hopeful turn, always seeing golden harvests in the future. For a short time we had a real lively bee-keepers' convention and then enjoyed a good farm dinner, prepared by the skillful hands of the bee-keeper's wife."

⁂

The Home Honey Market.

BY C. DAVENPORT.

ONE day last fall, while at work in the shop and honey-house combined, a stranger stept in the door and greeted me with, "How do you do, Mr. Bee-Keeper? Have you any nice white comb honey to sell this fine day?" He was the buyer for, and part owner of, a large grocery in a city some 20 miles distant. He bought and carried back in the light spring-wagon he came in, $67 worth of honey, for which he paid 15 cents a pound. I mention this because it so well illustrates what I wish to emphasize in regard to developing the home market; and that old saying, "Rome was not built in a day," can aptly be applied here, for it takes time, a number of years, to discover and fully develop its full possibilities, in perhaps I may say the average locality; that is, it does when a strong, vigorous effort is made to do so.

Some bee-keepers might reside in the same locality un-

Apiary and Daughters of Mr. Peter J. Klein, of Clark Co., Wis.

til time had whitened their once black or red hair, without making much progress in this line; in fact, many imagine they have no home market to develop.

Again, let me cite something that will make my meaning in this respect clear. Some time ago Mr. F. L. Thompson, who, altho not engaged in our pursuit long, is a well educated, intelligent man, and a ready—indeed, I think, owing to the many remarks he has made about what I have said, he should be willing to allow me to say that he is almost a *too ready*—writer, told me in the American Bee Journal some time ago in a very interesting way how he attempted to develop his home market. Probably most of those who read this also read what he said, so I will only say that his plan was peddling or canvassing from house to house. He met with such poor success that he decided that in his locality there was no home market worth developing, at least for him.

Now note the case of Mr. R. C. Aikin, of the same State (Colorado); he has in time developt a home demand which I believe takes thousands of pounds more to supply than he produces, and if I am right he is engaged more extensively and produces much more honey than Mr. Thompson does; and from reading what both have said in regard to their localities, I judge that in Mr. Thompson's locality the possibilities for creating a large home demand were much better than in Mr. Aikin's. It is my belief that the only localities in which a large home demand can not be created are those in which lack of population prevents. But even in sparsely inhabited localities the chances are far greater than many would think.

Let us imagine a territory embracing 20 miles in each direction from a bee-keeper. Suppose it has only 10,000 inhabitants; this, counting the residents of the towns and villages it might contain, would be a very sparsely settled region, indeed, but if each person, on an average, consumed five pounds of honey yearly, tho it would mean only a small fraction of an ounce per day for each, and they could consume this much by taking it in the form of pills, the way Mr. Thompson has suggested, still it would take 50,000 pounds to supply their annual demand.

Of course, I am fully aware that there are many persons in all localities who do not, and who probably could not be induced to, use any honey at all; on the other hand, tho, there are many who consume more than five pounds annually, and a great many more that could without much difficulty be induced to do so.

Now, the only way that the consumption and demand for honey can be increast is by advertising. At first this seems like a strange assertion. I can imagine some one saying, "Cut the price down say one-half, and see if it does not increase its consumption and demand." My friend, that would be advertising in one of its most effective forms, but an unprofitable way to the producer.

Another might say, "I never advertise, but I produce a first-class article, and my sales are increasing each year." This is another and more profitable form of advertising; that is, in this case the goods advertise themselves, owing to their merit. But this form may under many conditions be far too slow to secure the practical results that would be attained in combination with other forms. Advertising combined with merit is the secret of success in almost all forms of business, and sometimes advertising alone brings great success in a financial way when merit is nearly, if not entirely, lacking; and the number of effective ways or forms of advertising are great and varied.

For instance, P. T. Barnum used elephants to plow with, not because the work could be done cheaper with them than with horses, but simply as an advertisement, and he took good care to see that the plowing done with these ponderous beasts was where it would be daily seen—not only by a great number, but also great numbers of different people. But it must be borne in mind that Barnum was too shrewd a man to expect any full or adequate immediate returns for this expensive work with animals that cost more money in those days than many of us can accumulate with bees in a lifetime, and no immediate returns could be expected from the large sums of money he spent to have long lines of railroad cleared. But again he took great care that the anxious, delayed passengers should know that they could not proceed because the road was cleared for Barnum, who was coming thru on a special train.

Now, many forms of advertising I have practiced to increase the local demand for our product have brought in far less immediate returns than the effort expended justified me in expecting, but, as with Barnum, it has all told in the long run, and the success I have achieved in this respect is due to advertising in varied ways the fact that I am a producer of honey that is first-class of its kind. And in our pursuit no really permanent success can be obtained unless we produce first-class goods, but it is advertising that enables me to annually dispose of thousands of pounds in my local market, and which brings people from 20, and even 30, miles distant.

As I mentioned at the beginning, peddling from house to house I consider a poor method of advertising, at least so far as immediate returns are concerned, but it can be done in such a way that it will result in much future benefit. Of course, tho, locality and the man will make a great difference in the sales that can be made in a house to house canvass; this was my first method of trying to develop my home market, and it was persistently followed for some time, but this work was to me so disagreeable, and the results so far from what I desired, that it was long ago entirely abandoned for easier but much more effective methods of advertising, and altho I have perhaps already said more in relation to this matter than many will care to read, there is so much more I would like to say that I shall, if the editor permits, continue the subject in my next, in which will be described more in detail the most practical form of advertising that I have practiced.

Southern Minnesota.

Improvement in Stock the Most Hopeful Field in Commercial Bee-Keeping.

BY J. E. CRANE.

I DO not suppose that all of the honey secreted by the flowers will ever be gathered, even by the best of bees, still less will the best or most productive bees it is possible for man to produce ever get honey where none is to be had; but, if we can breed from our strongest and most industrious colonies till 50 or 75 such shall gather what 100 are now required to do, we shall at least save what it requires to keep the extra number of colonies. I believe we would better, for a time, look for Apis dorsata *in our own yards*. If we fail to find it, we may, perchance, find something even better.

I will not give in proof what a few isolated individuals have done, who are far away where distance lends enchantment, altho I might safely do so, but rather give a few facts from my own experience.

I became disgusted with the superior qualities of breeds as a whole. I had found some colonies of black bees greatly superior to the average Italian; while the qualities of the 3-banded Italians I had found, from many years experience, to be exceedingly variable. I advanced the theory that great improvements might be made by careful breeding for this purpose. That I might know what had already been accomplisht I bought as good a queen as money would buy from a queen-breeder who I had reason to believe had for many years been trying to improve the productions of his bees. I was unprejudiced, and seeking for the truth. During the summer of 1898 I reared some 35 young queens from this purchast queen. Of course, these mated with my own drones, or drones from my old stock.

The spring of 1899 found me with enough of this cross to judge somewhat of its value. The colonies of this stock were scattered thru two yards, and had the same care as my old stock.

I did not have long to wait, however, to note a difference after the flowers began to bloom; for I could tell the hives containing these young queens about as readily by the extra amount of early honey gathered as by their color, which was quite distinct from my own. The season proved one of the poorest I have ever known, yet these bees showed their superior working qualities during the entire season.

In September, when I came to look my hives over to see how much honey each one had for winter, I found my old stock to average 10 or 12 pounds in their brood-chamber, while the new stock averaged not far from 25 pounds, nearly or quite enough to winter on.

Later (in November or December), I wisht to get rid of some honey in some old drone-combs, and placed them in the sun on the south side of the barn out of the wind, as the weather was quite cool, to see if perhaps the bees would take it out. I was surprised to notice that almost every bee that workt on it (and they were numerous) was the descendant of this purchast queen, as could easily be told by the color, while I had yet in my yard some 25 colonies of my old stock of bees. Whether trying to gather honey at so unseasonable a time of the year is a virtue, or otherwise, I will not attempt to decide, but it shows at least their vigor, energy, and determination to get honey under adverse conditions.

Another point in favor of these bees, altho only a cross between superior stock and my own, was that they run very evenly; *i. e.*, what seemed to be true of one seemed to be true of all; showing that the queen I had purchast had come from stock bred for productiveness for many generations; and was capable of transmitting her good qualities in a very markt degree.

To accomplish such improvements in bees as I have outlined, the honey-producer should be able to rear all of his queens from the most productive colonies in his own yard, or from the best queens to be purchast; and this involves the necessary intelligence and skill for rearing artificially, with ease and rapidity, all his young queens from year to year.

In closing, let me say that however it may be with others, I am satisfied that, for myself, there is no direction in which I can make such decided and paying improvements in the production of honey as in the rearing of all my queens from the best and most productive stock to be found in my own apiaries, or that can be purchast for a reasonable sum of money.

To this end I shall devote my energies as never before, that the present season may show a large advance over the past in improving my bees.—Bee-Keepers' Review.

From the Freshly Laid Egg to the Fully Developt Queen.

BY DR. C. C. MILLER.

On page 199, Vol. I., of the American Bee Journal, the Baron of Berlepsch gives details of an experiment he made, in which queen-cells were sealed nearly ten days after the eggs were laid, and the queen emerged from the cell fully 18 days after the laying of the egg. In another experiment the time was 17 days. "These experiments," he says, "show that the opinion generally entertained, that the queens emerge between the 17th and 18th day after the eggs are laid, is correct." This was 40 years ago. Later, 16 days came to be accepted as the orthodox length of time for a queen, and still later some have called the time 15 days. T. W. Cowan says that queens mature "in from 14 to 17 days from the day the egg is laid." In a table of "Metamorphoses of Bees," British Bee-Keepers' Guide-Book, page 10, he gives what is probably meant to be the average, as follows:

1. Time of incubation of egg	3	days.
2. Time of feeding the larvæ	5	"
3. Spinning cocoon by larvæ	1	"
4. Period of rest	2	"
5. Transformation of larvæ into nymphs	1	"
6. Time in nymph state	3	"
Total	15	"

It is probable that a principal reason for the formerly accepted longer time, and for the considerable variation allowed by so good an authority as Mr. Cowan, comes from the fact that nuclei instead of full colonies were used in some of the cases for observation. Berlepsch used "a small forced swarm" in the experiment which gave him 18 days. Possibly if observations were always made with full colonies under favorable conditions, Mr. Cowan's 15 days might never be exceeded. It will be noted that Mr. Cowan has the larva fed 5 days, and Berlepsch nearly 7, Cowan's queen being sealed when 8 days old, and Berlepsch's when nearly 10, counting from the laying of the egg.

Incidentally, I made some observations last summer as to dates of sealing and hatching, while experimenting as related on page 834 of Gleanings in Bee-Culture for last year. It may be remembered that the five combs, *a*, *b*, *c*, *d*, *e*, were given in succession to the same queen to be laid in, so that every egg in any comb was older than all the eggs of any comb coming later in the list. I rather expected to find that the cells, both worker and queen, would be sealed in the order of their ages, all the cells of *a* being sealed before any cells in *b*, and so on. Such was not the case, for July 7 I found six worker-cells sealed in *b* while some cells were still unsealed in *a*. It might be supposed that the position might have something to do with it, the bees being more slow to seal cells in the outside comb, *a*. But this argument could not apply at the other side of the brood-nest, for July 12 I found 4 worker-cells sealed in *e*, while there were cells still unsealed in *d*. It seems clear that in this case cells were not sealed strictly in the order of ages.

July 6 I found about 10 square inches of sealed worker-brood in *a* when the oldest larva was less than 8 days and 30 minutes old (I count always from the laying of the egg). This agrees with Cowan's table, "time of feeding the larvæ, 5 days." As some little time should probably be allowed for the sealing of 10 square inches, it is likely that some of the cells were sealed when the inmates were less than 8 days old. Next day at 4 p.m. some cells were still unsealed when all had past the age of 5 days 4 hours.

Comb *b* gave much the same testimony: Six worker-cells were sealed when none had past the age of 8 days 4 hours (they might have been considerably short of that), and a few cells were left unsealed when all had past the age of 8 days 2 hours.

On comb *e* four worker-cells were sealed when the oldest lackt 45 minutes or more of being 8 days old. On this same comb the last queen-cell started (with too old larva) was not sealed till it was 9 days 3 hours old or older.

July 5 I started an experiment for the sole purpose of deciding something about the times and seasons of development. At noon I gave to No. 84 an empty comb for the queen to lay in, and took it away 4 hours later, with about 80 eggs in it, putting it over an excluder on 51. This upper story was strong in bees, and it was no doubt well cared for. July 8, 4 p.m., only 5 eggs were hatcht. At this time all the eggs were at least three days old, showing that most of them did not hatch till after 3 days old. I think others have reported considerably less than this, showing that the bees are not uniform in their proceedings, but very likely Mr. Cowan is right in giving 3 days as the time for eggs to hatch.

At this time, July 8, 4 p.m., the comb was given to No. 18, its queen, all its brood, and some of its bees being taken away at this time, leaving it a fair colony, but not strong. July 10, 6 a.m., larvæ were lavishly fed, several slightly enlarged as for queen-cells, and one hooded. One or several observations were made daily, but it is not necessary to recite all.

July 13, 6 a.m., one queen-cell sealed and one worker-cell. These were somewhere from 7 days 14 hours to 7 days 18 hours old. At 9 a.m. no change. At noon a few more worker-cells sealed. At 6:15 p.m. another queen-cell sealed. This cell must have been sealed when not more than 4 hours under 8 days old, and not more than 6 hours 15 minutes over 8 days old. These were perhaps the only queen-cells started with larvæ of proper age, for the age limit was reacht July 11, 4 p.m. But the bees continued to start queen-cells, and seemed especially desperate in the matter when the age limit had been past some two days, for 16 fresh queen-cells were started between July 13, 6:15 p.m., and 4:30 the next morning. It should be remarkt, however, that 4 other cells had been started soon after the age limit was past.

It would seem as if the attempt to make queens of too old larvæ had the effect to prolong the time of sealing beyond what it would have been if the larvæ had been treated thruout as workers. Notice what follows, and you will see that this is so. When the 8 days from the laying of the last egg had been past 12 hours 30 minutes, there were 16 queen-cells unsealed. At 17 hours past the 8 days, 9 were still unsealed. At 21 hours past the 8 days, 3 were still unsealed. At 25 hours past the 8 days, 2 were still unsealed. I am sorry to say there is no note when these last were sealed.

July 20, 6 a.m., no queen had yet emerged. At 10:25 a.m. one was out of the cell and was removed. This queen emerged from the cell in not less than 14 days and 14 hours, and not more than 14 days 22 hours 25 minutes after the laying of the egg.

There seems nothing in these observations to throw discredit on the table of Mr. Cowan, and it may not be an unfair inference that he drew his conclusions from colonies of fair strength while others used nuclei.

A practical consideration is that those who count upon 16 days from the laying of the egg to the emerging of the queen may have a fine batch of queen-cells destroyed by a queen emerging inside of 15 days.

It appears quite plain that bees are not uniform in their performances, and it would be nothing strange that the next experiment should give different results.

I am quite strongly of the opinion that there is much more variation as to the time of sealing queen-cells than there is in the time of sealing worker-cells. I have been surprised, sometimes, upon opening a sealed queen-cell, to find it occupied by so small a larva, and this with everything in prosperous condition. The bees can afford to vary no little with queen-cells, while such variation with worker would be disastrous. As a rule the rations of the worker are carefully measured out, not an iota remaining unused; and if the larva should be sealed up a day or two before the usual time, the worker would be dwarft if not starved. With a royal larva it is different. From first to last it has an excess of food, and if sealed up while quite small it has a sufficient supply to last. McHenry Co., Ill., Jan. 12.

[This article, as will be seen by the date, was written about the first of the year; but I have held it till now so that the interesting conclusions can be verified or disproved in the apiary. I should like to have our readers, especially queen-breeders, go into the matter carefully; for in a practical way it involves the matter of choice queens, and that means honey.

What surprised me is that in one of the experiments conducted the bees should have apparently waited so long before starting the bulk of the cells; for Dr. Miller says that 16 fresh queen-cells were started on the 13th of July, just 8 days after the eggs were laid, or 5 days after the larvæ were hatcht. We have heretofore assumed that larvæ just hatcht, or larvæ not more than three days old, was the preferred age; but here is a case where the bees evidently had a preference for the five-day limit. Now, the question is, was this exceptional with this colony, or is it the common average? Now, don't you see a great deal of importance attaches to this?—Ed.]—Gleanings in Bee-Culture.

Moving Bees Short Distances.

BY I. W. BECKWITH.

UNDER the above heading G. M. Doolittle, on page 291, makes some statements that are likely to do mischief. In the first place, he moves his bees with as little jar as possible; why, he does not say. It can hardly be on account of the danger of breaking down the combs, for unless they are new and full of honey, there is no such danger loaded in a wagon without any protection. Neither can it be that he thinks it necessary to avoid disturbing the bees with so much jarring, for when he gets them home he finds it necessary to pound on the hives and disturb them for a considerable time.

But the more important error that he makes is in the statement that the bees will not find the hive that is left to catch the returning bees, provided it is moved more than five feet from where their hive had formerly stood. If the hives had stood more than five feet apart it would be necessary to leave at least every other hive, which would allow very little choice in the strength of the colonies to be left; and then, when these were taken home there would nearly as many bees return and be lost as tho he had moved all at once; since those that returned from the first lot moved are the field-bees that would be liable to return again. And if the distance between hives should be more than ten feet, there would be no use in leaving any.

He says: "If you move the weaker colonies more than five feet you lose all the bees that fly from that;" and a little further along on the same page he says: "But after careful watching for many years I am satisfied that all such bees finally go back to their new location, if they have been treated as here given." I would like to ask Mr. D. which of these two statements is correct? I might report cases to show that neither is true, but will only relate one case, and I think the universal experience of observing bee-keepers is the same as mine.

On May 5th I bought nine colonies of bees from a neighbor living about 40 rods from my place, and that evening I moved seven of them home, leaving two very weak ones to catch those that should return. Four of the hives were scattered, having been left where the swarms were hived last summer, and two of them were 50 feet or more from where I left the "catcher." The other five were on a stand together. The next day I went there to see how they were getting along, and found that those two were catching the bees all right, the one where the five had been catching most of the bees.

After two days I brought home the one that had caught the most bees, and set the other in its place. Again, after two days, I brought this one home also, and took a very weak colony from home to put in its place, which caught quite a number or bees. The bees were working vigorously at this time. Fremont Co., Wyo.

The Premiums offered this week are well worth working for. Look at them.

The National Queen-Breeders' Union.

BY J. O. GRIMSLEY.

AFTER reading the editorial on page 360, relative to the National Queen-Breeders' Union, I am convinced that Mr. York, like many others, has formed a wrong idea —probably from not being informed as to the real object of the organization. One thing leading to this conclusion is this, that he says: "Suppose the supply-dealers should form a union, telling how honest they are," etc. This has no bearing whatever on such an organization as the union of queen-breeders, and proves that he does not understand us. His reference to the "free advertising" is still further evidence that he misunderstands us—and my editorial in The Ruralist.

I can not accuse Mr. York of being so selfish and short-sighted as wilfully putting an error before his readers; in fact, I must say he is a clean editor, always looking to the interest of his readers. Had I any other opinion of him I could not write for his columns at this time, or any other. I believe him sincere when he says: "We bear not the slightest ill-will toward the National Queen-Breeders' Union, or its members." Really, I believe a mutual friendship exists between Mr. York and each member of the Union. I make these remarks to show to the readers of the "Old Reliable" that no ill-will exists—his comment was timely, and, barring his lack of information regarding the Union, nothing can be said against it.

He says: "The National Bee-Keepers' Association is an organization of which every one at all interested in bees should be a member. It is not restricted to a half dozen or so people who have something to sell to bee-keepers, but it is in the interest of all who keep bees." Every word of that is true, and I might add further that bee-keepers everywhere stand in their own light by not joining the Association. I keep the card of the Association standing at the head of my column in The Ruralist, and give it all the "free advertising" I can. The "half dozen or so people who have something to sell to bee-keepers" has an indirect reference to the National Queen-Breeders' Union. Of course the Union can't number up into the hundreds like the National Bee-Keepers' Association, for every bee-keeper can't be a queen-breeder, neither, indeed, will such ever be the case, but a majority of the bee-keepers are dependent upon the queen-breeders for just such stock as they need. Mr. Root recognized the fact that queen-breeders were not numerous when he wrote to me that "the queen-breeders can be counted on the fingers of your hands." I can hardly think they are so scarce as that, but the real, honest, up-to-date breeders may be—I can't say.

The National Queen-Breeders' Union blows its horn of "honesty" because no dishonest breeder *can remain a member*, and in case a member "beats" a customer, the Union is bound to make the loss good. That is no bad feature, is it? We number but few, I admit—always will, for there are few breeders—but we want every honest breeder in our ranks—they belong there, the bee-keepers are interested, and will be benefited.

"Free advertising" of the Union is like "free advertising" of the Association. The *members* of the Union are individual advertisers of queens, while the *members* of the Association are individual advertisers of honey, queens and supplies—in each case, of course, so far as advertising is required.

The fact that the Union guarantees honest and square dealings upon the part of individual members will make breeders slow to join, but we *will number all honest breeders* in our ranks when they fully understand what we are doing.

The Union fixes a standard for Italians, Golden Italians, Carniolans and Albinos, and will, as occasion requires, add others. In this we settle the name Golden Italian, and show what each class of queens *must* produce. Heretofore no standard was recognized, except as individuals might fix.

An application for membership must show how the surroundings are, as regards neighboring bees, and chances for pure mating—everything, in fact, tends to encourage every possible improvement, both in stock and methods of rearing. The organization is looking to something more than individual interests. It wants to benefit all, and is exactly the same class of organization as the National Bee-Bee-Keepers' Association, except it is composed exclusively of queen-breeders, and the members must be received by a vote. If its rules were not strict in that regard unscrupulous breeders would soon outnumber the honest, and the organization would be a farce.

Of course, it will take time to perfect the organization, and get its objects and good features properly before the bee-keepers, but with the addition of most of the best breeders we will prove that our "pet scheme" is of as much worth to American bee-keepers as the National bee-keepers' Association is. Overton Co., Tenn.

The Boardman Feeder—Rendering Wax.

BY G. H. FREY.

NOT long since I saw the question askt as to what to do with Boardman entrance feeders to keep the feed from running out faster than the bees would take it. A few years ago I commenced keeping bees, and after reading books and papers on bee-keeping, and talking with experienced bee-keepers, I concluded it would be a good plan to feed, especially in the spring up to the time of the honey-flow. So I began to look for a good feeder, and after studying all kinds I decided to try the Boardman entrance feeder, as did some other bee-keepers here, one to the extent of getting 100 feeders, which he has not used yet.

After getting my feeders (20 in number), I found that no matter how level, or how careful I might be, the feed would run out as fast as possible, taking about five minutes to empty a quart jar. I workt and fust with them until I became almost disgusted. At last I tried putting a piece of thin cloth over each jar before putting the cap on. Sometimes I would punch holes thru the cloth if it didn't let feed thru fast enough; but I found this unsatisfactory. Then I put my thinker at work again, and finally came to the conclusion that the hole cut in the cap was too large, so I tried some with a ⅞-inch hole cut in the center of the old cap, using both caps. This gave the best of satisfaction. Then I fixt all I had, which I use right along now, but I find in putting the special cap on the other cap they must be soldered as tight together as possible all around (not fastened all around, but just in three or four places).

I have had some experience in rendering wax from old combs. At first I tried melting and straining, but got very little wax. The past spring I made a press by taking two planks (hard wood) 5½ feet long and 14 inches wide, hinged together at one end with three of the largest size strap hinges, the hinges being bent to fit over the ends of the planks, after putting a ⅝-inch thick strip of wood between the planks after the hinges are bolted on. There is a 3-inch square hole cut about 12 inches from the hinged end in the bottom plank, with heavy screen over it, such as is used in sand-sieves, nailed solid with small staples. The ends of the planks opposite the hinged ends are hewed off so as to be used as handles.

I use a large tin boiler to boil the combs in. They should be allowed to boil up well, so as to get all the wax melted. I also use a large size wooden tub, with a strip nailed across one side, down about 6 inches from the top, for the hinged end of the press to rest on. I also have a box for the handle end to rest on to keep the weight off the tub. Then, taking about half a grain sack, I put in ½ gallon of the melted combs, and folding the sack as much as possible, I proceed to press it out, folding the sack until all the wax is prest out.

The press will need a strip of cloth on each side, and ckt on the top plank. Also, a piece across the top plank f ront of the portion used as a press. Extracting wax is a job with all common methods, and this plan is no fun.

After all is prest out and cooled, take off the wax and melt it again in some water, and if very dirty it might be best to melt a couple of times, but in melting two and three times don't let it boil; just let it come to a boil, so as to have all the wax melted. Linn Co., Iowa.

Candied Comb Honey—How Profitably Utilized.

BY A. M. APPLEGATE.

THIS question has been frequently discust thru the journals, and all the best methods given for saving the honey and wax; but in all these you destroy the comb and leave the honey so inferior in quality that you hardly realize enough out of it and the wax to compensate for the nice straight combs you sometimes have to melt in order to get the honey.

The method I will attempt to describe preserves the combs as nice as new, and instead of the second-class honey you have first-class vinegar, which will bring you as much money and be as easily disposed of. Besides, you are all aware that inferior honey should not be put on the market at any price.

Having provided a barrel with one head out, take the frames containing the candied honey, and where they are sealed comb them with the edge of a wire-cloth just enough to expose the honey. Sometimes there will be enough honey in the combs that can be thrown out to pay for uncapping and running them thru the extractor first. Then pack the frames containing the combs as snugly as you can in the barrel, noting at the time about how much honey they contain so that you will know how much water to add. Having the frames secured in the bottom of the barrel so they can not float, pour in water enough to cover them. You can hurry fermentation by adding a little yeast; or should you already have some fermenting, add a little of it to the one just prepared.

Two pounds of honey to one gallon of water makes very good vinegar; but you should keep it as much stronger as possible so that the water used to rinse the combs after they are thru fermenting and thoroly soured, may be added, making in all about one gallon of water to every two pounds of honey. The honey, and even the pollen that contains some honey, or has absorbed some of the sweetened water, will be fermented out of the cells. What is not removed in this way will shrink from the cell walls, when dry, and will jar out or be removed by the bees. To remove the vinegar from the combs turn the frames, with the top down, supporting them between the thumbs and fingers, let them drop onto some strips across the top of the barrel, gently at first, until the comb is relieved of some of the vinegar; then immerse them a few times in water, jar the water out in the same way, and use it to dilute the vinegar. Any additional rinsing will do no harm, neither is it necessary to have the combs entirely free from the vinegar.

I treated black-brood combs in the same way last summer, and thought what little vinegar adhered to the combs was an advantage.—American Bee-Keeper.

Value of Bees to Farmers, Fruit-Growers, Etc.

BY DANIEL WYSS.

FARMERS, fruit-growers, and gardeners should keep more bees. Will it pay? will probably be the first thought of the reader. Yes, it will pay to keep bees. We do a great deal of work every day for which we are not rewarded immediately, and for which we do not receive direct pay, but expect to be benefited later in an indirect way for such labor. The only profit most people could see in keeping bees would be the surplus honey obtained for family consumption or to put on the market. Bees are the best agents in fertilizing fruits. When fruit-trees bloom, bees visit the blossoms in quest of honey (nectar). This nectar is secreted in a basin in the lower part of the blossom. Around this basin are the stamens terminating at the top into anthers, which contain the pollen. Webster defines pollen as being the fecundating dustlike cells of the anthers of the flowers. The pistil is the female organ, and stands in the center of the flower. It consists of the ovary at its base, which contains the rudiments of the seeds. On the top of the pistil is the stigma which receives the fertilizing powder (pollen) from the anthers.

The two sexual organs—stamens and pistils—are, in certain species, united on the same flower, and in others on different flowers, and even on different trees. Some plants and trees are sterile to their own pollen. Quite a number of species of trees and plants are fruitless when only pollen from the same tree or plant is applied to their flowers; altho the same trees and plants mature fine fruits and seeds when pollen from other trees or plants is applied. This goes to show that it is absolutely necessary in order to raise perfect fruit and an abundance thereof from trees and plants that are sterile to their own pollen, that pollen from other plants or trees of different varieties of the same species be transmitted or carried to the flowers of these self-sterile varieties.

If any reader doubts the above statement, let him make an experiment with two Brighton grape-vines, planted 100 yards or more apart, and that distance from any other grape-vine. Then plant a Concord grape-vine within three feet of one of the Brighton vines, and none to the other. When these vines come into bloom probably as many bees will be found on the blossoms of the isolated vine as on the other two planted closely together. Some of the bees that will visit these two vines, will probably climb over every blossom thereon, and thus intermingle the pollen of the Concord vine with the blossoms of the Brighton, producing perfect fertilization by cross-pollination. This Brighton vine will bear large bunches, well and closely filled with fine, well-developt berries of the best quality, while the isolated one will yield but few bunches of scattered berries.

A great many varieties of apples, plums and pears are self-sterile, and in order to bear perfect fruit must be cross-pollinated with pollen of other varieties of the same species. Cross-fertilization is strictly necessary for small fruits, such as raspberries, gooseberries, etc. In some seasons, when apples, plums, pears and cherries bloom, the weather is often unfavorable for pollination. It may be too cold and too wet, and the pollen remains too moist and too sticky. If during such seasons there would be but a few hours of sunshine, while the bees in great numbers would visit the blossoms, fruit would set abundantly, and a good crop would be the result. If, however, during the few hours of sunshine no bees would visit the bloom, very little fruit would set.

The honey-bee was wisely created to perform the transmission of pollen, its body being covered, especially on the underside, with many fine hairs of a compound, feather-like nature. When a bee alights on a flower, and whirls around on the same, its hairy body is soon loaded with pollen. Arriving on the next blossom some of the pollen comes in contact with the stigma of that flower, and is fertilized.

Thirty to 35 years ago fruits were more perfect and abundant. At that time there were ten colonies of bees to one at present, in this locality. In those days fruit-trees when in bloom fairly swarmed with bees. Mark the change in the spring when trees are blooming. Compare the number of bees you may see among the blossoms with those of former days.

Thirty-five years ago almost everybody kept bees. Our forests were then full of hollow trees where runaway swarms found lodging-places. From there they would swarm the next season. Runaway swarms from the apiaries, and swarms from the woods, were caught and put in common boxes, nail-kegs, etc. In the fall of the year when honey was wanted a colony or two would be slaughtered by "brimstoning" them. Admit that 35 years ago bees had a better range for gathering nectar (honey) than now. At that time our forests abounded in yellow poplar, linden, or basswood, and other nectar-yielding trees that are getting very scarce now. On the other hand, there is a better range of field flowers, white clover, etc. Three years ago this locality produced more white clover honey per colony than at any other time in 30 years.

Bees are not hard or difficult to winter if you give them some attention in the fall of the year. The writer has wintered from 12 to 25 colonies for 12 years without the loss of a single colony. Bees have other values than here set forth. Their stings are said to be sure cure for a great many cases of rheumatism. Cases have been reported in which the cure was almost instantaneous.

Bees, like stock, have been greatly improved by breeding. They are more docile, not so apt to sting as those of former days, and there is not much danger of getting involuntary treatment for rheumatism from them. Try it a few years, farmers and fruit-growers. Keep more bees, and you will be surprised to learn what a benefit they will be to you.—Tuscarawas Co., O., Weekly.

Belgian Hare Breeding is the title of a pamphlet just publisht, containing 10 chapters on "Breeding the Belgian Hare." Price, 25 cents, postpaid. It covers the subjects of Breeding, Feeding, Houses and Hutches, Diseases, Methods of Serving for the Table, etc. It is a practical and helpful treatise for the amateur breeder. (See Prof. Cook's article on page 292.) For sale at the office of the American Bee Journal. For $1.10 we will send the Bee Journal for a year and the 32-page pamphlet on "Belgian Hare Breeding."

Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Upon receipt of $1.00 for your Bee Journal subscription *a full year in advance*, we will mail you a Wood Binder free—if you will mention it.

The American Fruit and Vegetable Journal is just what its name indicates. Tells all about growing fruits and vegetables. It is a fine monthly, at 50 cents a year. We can mail you a free sample copy of it, if you ask for it. We club it with the American Bee Journal—both papers one year for $1.10.

DR. C.C. MILLER

QUESTIONS AND ANSWERS.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Keeping Extra Queens Over Winter.

Can one keep extra queens over winter, that is, in a box—so that in case of a queenless colony one can resort to them? ILLINOIS.

ANSWER.—The only way to keep queens successfully thru the winter is in a colony of bees or a nucleus. The trouble is to bring a nucleus thru the winter, unless it be pretty strong.

◆

Colonies Killing Bees.

I have 16 colonies of bees, and today I lookt thru hive No. 5 at 1 p.m., and, finding them in a normal condition, went away. At 4 p.m. I lookt thru No. 11, that had one queen-cell capt. I noticed before I had closed it that they were fighting on the frames. I closed it up, and at 7:30 I saw at least a half gallon of bees dead at the entrance, about an equal amount at each, No. 5 and No. 11, which are about 3 feet apart, and are black bees. What is the probable cause of this trouble? I have been reading the Bee Journal nearly two years and don't recall a like case askt or answered.

I used planer shavings and a little tobacco in the smoker. The bees were still fighting at nightfall, and I gave them a good smoking. I must wait till morning to see the result. KENTUCKY.

ANSWER.—A stray swarm may have tried to force entrance. Sometimes such a swarm will be kindly received, and at other times every one of the intruders will be killed.

◆

Some Swarming-Troubles.

1. I have a colony of bees that has attempted to swarm several times; the queen being clipt she did not go with them upon the first swarming, so the bees returned. I then placed a perforated-zinc entrance-guard on the hive and have left it there ever since. The colony has attempted to swarm several times since putting on the guard, but of course in each case the bees have returned. I do not care for increase, and so have put entrance-guards on all my hives. What will be the result? Will not the swarms return each time they attempt to leave, and finally get to work all right. I have two supers on the first colony mentioned, and the bees are working in both. I prefer to have them store honey, instead of wasting their time attempting to swarm.

2. I have been thinking of trying the following experiment with the above colony:

Remove the hive from the stand and put on the brood-chamber a shallow extracting-super filled with frames of comb foundation. Then on top of it put a queen-excluder, and on that the two supers with the bees in them. After putting the queen in the shallow brood-chamber place the old brood-chamber beside the old stand, facing in the opposite direction. This would throw practically all the working-force of the bees back on the old stand, causing them, according to my idea, to fill the supers rapidly, and thus also prevent all further attempts to swarm. After two or three days I would remove the old brood-chamber to a new stand, letting them rear a queen. What do you think of this latter scheme as a method for preventing swarming, and also getting a honey crop? Later on the two colonies could be united for winter, and thus do away with increase that is not wanted. A. B. S.

ANSWERS.—1. The entrance-guard will hold the queen, so that the swarm will be obliged to return, unless it happens to fall in company with a small after-swarm or some other colony having a flying queen, when it will leave you without ceremony. As soon, however, as the first young queen emerges, the frenzy to swarm will be redoubled, and there will very likely be cases (I had a number of them) in which the queen will get thru the excluder or thru some crevice, and away go the bees. In some cases the young queens will be successfully held, but exit for the queen must be allowed for the wedding-flight, or you will have a drone-laying queen.

2. I cannot clearly make out just what your plan is, but I think you mean to have the queen without brood in the lower chamber, and eventually all the old brood taken away. If rightly carried out, this will prevent swarming, and may result in a satisfactory crop.

Inside Measure of a 10-Frame Hive.

On page 374 Dr. Miller says the 10-frame dovetailed hive is 14⅞ inches, inside measure. Is that right? I wrote the A. I. Root Co. last winter for their measure, and they said 14¼ inches inside. NEW YORK.

ANSWER.—I was wrong and the A. I. Root Co. right. I was a victim of misplaced confidence in the maxim that figures cannot lie. The 8-frame dovetail is 12⅛ inside, and two more frames spaced 1⅜ adds 2¾ to the 12⅛, making 14⅞. That's the way I figured it out, and I felt quite safe in those figures, not thinking that I had a 10-frame hive that I could measure. I have, however, three of the Draper barns, which are 10-frame, and I have just measured one, and find it 14¼. It seems that in the 10-framers no room is left for a dummy as in the 8-frame; hence the discrepancy. I certainly would not like to do without the dummy space in the 8-frames, and it would probably be an improvement in the 10-frames, but that wasn't the question, and I ought to have answered 14¼. As a spite shot at the A. I. Root Co. for getting me into this trouble, I may say that it is a difficult thing at present to get a frame out of the 10-frame hive, and after being in use two or three years in any locality where bee-glue is plenty, it will be simply unendurable.

Bitter Honey—Italianizing—Swarming.

1. I send you by this mail two vials of honey, numbered 1 and 2.

The honey in vial No. 2 I know whence it came, but vial No. 1, I am not so sure about. Can you tell me thru the columns of the American Bee Journal the plants it was gathered from? It is honey that was gathered early, say thru April and up to May 20, or thereabout. You will discover it is very bitter—in fact, so bitter we can't eat it, nor do we undertake to put it on the market.

The honey in vial No. 2 is (or will be when thoroly ripe) *very fine*, both in quality and body, as when well ripened it is very thick; in fact, so thick it will hardly run, and you notice from the sample it is real clear. This No. 2 vial, which is the large one, is sumac honey. If it doesn't rain too much my 34 colonies will store lots of sumac honey.

2. Did I do right in swapping frames of bitter honey stored in extracting-frames, for empty combs on the outside of the brood-chamber? thus, you might say, making 10 frames for queens to lay in.

3. Are 10 frames 13¾x8⅝ inches, inside measure, as much as ordinary queens will keep filled? My hives hold 12 of these frames, and I have seen every one chock-full of brood.

4. I ordered two golden Italian queens a few weeks ago, expecting to try to Italianize my entire apiary this fall after black drones were "done doing." Now, what do you think of this? I am quite sure I could accomplish it a great deal easier early in the spring, yet I prefer to do the Italianizing in the fall, that I may have laying queens ready for business early in the spring.

Will you give me your ideas about what you would do if in my shoes?

5. I have had only 4 swarms in 3 years that I am aware of. How's that? Lonoke Co., Ark.

ANSWERS.—1. I can't tell the source of the bitter honey. It reminds one of hoarhound, and in spite of its bitterness some might like it. It is not impossible that a demand might be created for it on account of medicinal qualities.

The sumac honey is not very heavy in body (possibly not well ripened), light in color, with a peculiar flavor which is by no means unpleasant. If well ripened it is not hard to imagine it might be very fine.

2. Probably you could do no wiser thing than to give the bees frames of bitter honey in place of empty combs, thus getting the honey changed into bees.

3. There is a great difference in the capacity of queens. Some would not keep 12 frames like yours filled, and some would need more; 10 such frames are equal to about 8½ Langstroth frames, and many queens find 8 Langstroth frames enough, while others need more.

4. I should certainly Italianize this fall rather than to wait for spring, having just that much the start, but if it were spring I don't think I should wait for fall.

5. If you have for 3 years kept from 10 to 30 colonies, and in that time have had only 4 swarms, you are very much to be envied. Please tell us what you think is the reason you have had so little swarming. The non-swarming question is a live one. J. O. Grimsley goes as far as any one can go in that direction, believing that the swarming propensity can be bred out entirely.

The Chicago Convention of the National Bee-Keepers' Association meets the last week in August, as will be noted by the following from Secretary Mason:

EDITOR OF AMERICAN BEE JOURNAL:—

Please allow me to remind the readers of the American Bee Journal that the next convention of the National Bee-Keepers' Association is to be held in Chicago, Ill., on the 28th, 29th and 30th of August next, commencing Tuesday evening, the 28th, at 7:30 o'clock.

The sessions will be held in Wellington Hall, No. 70 North Clark St., about a block and a half from the Bee Journal office, and about five blocks directly north of the Court House. The hotel at which members can secure lodging, etc., is the Revere House, southeast corner of Clark and Michigan St., only one-half block from the hall. Rates of lodging will be 50 cents per night, and several will have to occupy one room. To many bee-keepers this will be an "added attraction," especially as they will have good beds to sleep on, as Mr. York has been assured by the hotel proprietor. It may be possible that this hotel will not be able to accommodate all of the bee-keepers, altho the proprietor will do his best to see that it does. Each one attending the convention should secure a lodging-place as soon as possible after arriving in the city. There is usually no trouble in getting enough to eat at reasonable rates.

The program for the convention will be different from what it has usually been. There will not be to exceed one paper at each session, and the remainder of the time will be occupied in the asking, answering, and discussion of questions. The question-box will be in charge of such veterans as Dr. C. C. Miller, of Illinois; Rev. E. T. Abbott, of Missouri; D. W. Heise, of Ontario, Canada; C. P. Dadant, of Illinois; R. L. Taylor, of Michigan; O. O. Poppleton, of Florida; and the editor of the American Bee Journal.

On Wednesday evening the editor of Gleanings in Bee-Culture will give an "Illustrated stereopticon talk on bee-keepers I have met, and apiaries I have visited."

The papers will be from such noted ones as Thos. Wm. Cowan, of London, England; Dr. Wm. R. Howard, of Texas; Mrs. H. G. Acklin, of Minnesota; S. A. Niver, of New York; Herman F. Moore, of Illinois; and R. C. Aikin, of Colorado; and if you want to know what the papers are about, and assist in the discussion and enjoyment of the questions, please report in person at the above mentioned hall at the time indicated.

I have been unable as yet to learn what the railroad rates will be, but they probably will be as heretofore—one fare for the round trip from some localities, one and one-third from others, or a cent a mile each way in the Central Passenger Association territory. The exact rate may be learned by inquiring at any railroad station.

A. B. MASON, *Sec.*

"The Hum of the Bees in the Apple-Tree Bloom" is the name of the finest bee-keeper's song—words by Hon. Eugene Secor and music by Dr. C. C. Miller. This is thought by some to be the best bee-song yet written by Mr. Secor and Dr. Miller. It is, indeed, a "hummer." We can furnish a single copy of it postpaid, for 10 cents, or 3 copies for 25 cents. Or, we will mail a half-dozen copies of it for sending us *one new* yearly subscription to the American Bee Journal at $1.00.

AMERICAN BEE JOURNAL.
ESTABLISHT IN 1861 OLDEST BEE-PAPER IN AMERICA
DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS

PUBLISHT WEEKLY BY
GEORGE W. YORK & COMPANY,
118 Michigan Street, Chicago, Ill.

[Entered at the Post-Office at Chicago as Second-Class Mail-Matter.]

DEPARTMENT EDITORS:
C. C. MILLER, "Questions and Answers." * * E. E. HASTY, "The Afterthought."

LEADING CONTRIBUTORS:
G. M. DOOLITTLE, C. P. DADANT, PROF. A. J. COOK, F. A. SNELL, R. C. AIKIN, "OLD GRIMES."

IMPORTANT NOTICES:

The Subscription Price of this journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "Dec00" on your label shows that it is paid to the end of December, 1900.

Subscription Receipts.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows you that the money has been received and duly credited.

Advertising Rates will be given upon application.

VOL. 40. JULY 19, 1900. NO. 29.

EDITORIAL COMMENTS

NOTE—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England: —Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

The National Queen-Breeders' Union.—Mr. J. O. Grimsley, the secretary of this organization, has an article on another page of this issue of the Bee Journal. He sets forth quite ably and fully the objects of the Union in which it is desired to invite all honest queen-breeders. Undoubtedly its aims are worthy, and it might be a good thing for the few queen-breeders in the country to get into the organization. And yet, we fail to see very clearly just why any of the bee-papers should devote much space to advertising it, any more than they should push the claims of the Carriage Manufacturers' Union, because bee-keepers need carriages, and ought to be told who are the honest makers. Or, to bring it nearer home, why should the bee-papers push a Bee-Supply Dealers' Union, if there were one in existence?

There are doubtless just as honest queen-breeders outside of the Union as there are in it. Shall the bee-papers, by devoting space to the Union, favor those breeders who have paid their $10 membership fees, rather than those who are just as worthy outside of it, and who perhaps are more inclined to patronize the advertising columns of the bee-papers, than are the members of the Union?

By the way, for what purpose is the $10 membership fee used? But perhaps that is none of our affair.

A Ventilated Double Gable Cover is the one that H. L. Jones says in the Australasian Bee-Keeper he has settled upon as the only satisfactory one, altho he has tried many kinds, including flat, "Danzy," painted canvas, oilcloth, and tin roofs. A double cover has been somewhat called for in this country, but manufacturers have not seemed inclined to supply it, such a cover, however, having been mentioned in the Canadian Bee Journal as on the market in Canada. The advantage of a double over a single board cover is claimed to be that a hive with a dead-air space between its two parts acts as a non-conductor—warmer in winter, cooler in summer. One objection to the flat board cover is that when it doesn't warp it twists, so that as soon as it acquires a little age disagreeable cracks will be found between the hive and the cover. With the double cover the upper part may have the grain running one way and the lower part the other, such a cover allowing a close fit even when cold. The want for a satisfactory cover is yet to be supplied.

Colorado and Wax-Moths.—F. L. Thompson quotes in the Progressive Bee-Keeper the letter of Prof. Gillette, given on page 200 of this journal, which letter, and the words introducing it, Mr. Thompson thinks might be misleading. As the larva of the moth mentioned by Prof. Gillette does not feed upon wax and honey, he thinks it should not be said to infest honey-combs, but only pollen-combs.

Be Careful in Packing Bees for Shipment.—The British Bee Journal gives particulars of a distressing mishap in which the cover came off a hive prepared to be sent by train, and many persons were severely stung, the bees holding possession of the grounds till dark. The very greatest care should be exercised to see that by no possibility a single bee can escape in case of shipment, and even when hauling to an out-apiary for the first time it is very likely to be the case that some little leak has been overlookt, and a stinging reproof teaches more caution for the future. In case of shipment on the railroad, a safe rule would be to accept no bees from one who has had no previous experience in shipping, and that is practically the rule with railroads in this country.

Small vs. Large Bottoms for Queen-Cell Cups.—Since the production of cell-cups "by the peck," thus popularizing their use, there comes to the surface a difference of opinion as to whether the bottoms of the cell-cups should be of the same shape as the bottoms of queen-cells that bees prepare for swarming, or for a short distance the same size as the bottom of a worker-cell. As originally made by Mr. Doolittle, the cells had large bottoms, a portion of royal jelly was put in the cell, and the little larva placed thereon.

Then Willie Atchley conceived the idea of transferring part of the cocoon with the larva, paring down the comb containing the larvæ to be transferred, then lifting with tweezers the little cup of cocoon containing the larva, and placing both cocoon and larva in the cell-cup. To make this work more satisfactorily, he made the dipping-sticks upon which the cell-cups were formed somewhat pointed, so that for a little way the bottom of the cell was the size of worker-cells, then suddenly enlarging to the full size of the queen-cell.

Then W. H. Pridgen took up the matter, and took two long strides in advance. He conceived an arrangement for making the cells by wholesale, whether with large or small bottoms, and devised an ingenious arrangement to take the place of the tweezers. This latter consists of what he calls a "transfer," or transfer-stick. The end of this transfer is of such size as to fit snugly into the shallow cocoon, hollowed out at the extreme end, so that the larva is unharmed by the transfer. Pressing the transfer into the shallow cocoon, he lifts the latter and places it in the bottom of the cell-cup, then after a little pressure withdraws the transfer, and the cocoon with its larva is left in the cell-cup ready for the acceptance of the bees.

The question now is, Which is better, the large bottomed cell-cup with its ration of royal jelly, or the smaller bottom with its transferred cocoon? The large bottom has on its side the advantage of priority, with a possible tendency toward preference for a plan already familiar. With the small bottoms, a piece of the comb must be cut out, care must be taken to have comb of sufficient age to make the cocoons sufficiently tough, and in cutting out the comb a lot of larvæ and young bees may be wasted. On the other hand it is replied that with proper care a piece of comb can be cut out containing larvæ all of the right age, and an inch square of such comb will furnish 50 larvæ, and a patch of dry comb can be put in to fill up the hole; that there is no trouble getting royal jelly and stirring it up to get it of the right consistency, but each cocoon carries with it its ration of food of just the right sort, and that such cells are more readily accepted by the bees.

Each side claims its plan as that of least labor, and it will probably take time to decide which is right, if indeed each is not right from its own stand-point.

Improvement in Stock is a topic that has sprung into prominence as never before during the past year. Mr. J. E. Crane has been working upon it in several successive numbers of Gleanings in Bee-Culture, and now discusses it in the Bee-Keepers' Review. Mr. Crane thinks it would be well if some of the energy displayed in getting up improvements in fixtures had been devoted to the bee itself. "If half the efforts," says he, "that have been spent in producing a non-swarming hive had been spent in producing a non-swarming breed of bees, I believe we should now have been far in advance of our present position."

In working for improvement, it should be not merely for gentleness, color, or purity of breed, but rather for best results in storing.

The best part of his article appears on another page this week.

Needs Laxative Nervo-Vital Tablets.—Editor Leahy is in "pain" because the advertisement of the Modern Remedy Co. is running in this journal, and says "the 'Old Reliable' gives space to a 'quack.'" Mr. Leahy, if you will read carefully the advertisement, you will find in it the following words: "We give the formula with every box. You know exactly what you are taking." When the ingredients of a remedy are given in full, it is not customary to denominate such remedies as "quack" remedies, nor the compounder as a "quack." If it were, then no physician or druggist would be free from the title of "quack." Better send for a free sample of the remedy, Mr. Leahy, and perhaps it will relieve you of some surplus bile.

Editor Leahy closes his painful editorial with these strange words:

> "I do not believe I should enjoy paying $200 a year for an advertisement in a publication that would sell some one else three times the space for only $50 to ask me each week if I was full of ginger, or had the *blues*."

Editor Leahy, in the words quoted, does not say in plain terms that he would have to pay twelve times as much for advertising as do the Modern Remedy Co., but it can so easily be understood to bear that meaning, that we commend to our contemporary an ancient injunction which reads: "Thou shalt not bear false witness against thy neighbor."

The National Convention Next Month—don't forget it. The dates are Aug. 28, 29 and 30. The place—Chicago.

The Weekly Budget

MR. HARRY LATHROP, of Green Co., Wis., writing us July 8th, said:

> "Our honey-yield has been fair, and is still coming, but basswood was cut short by storms."

* * * * *

CLOSED SATURDAY AFTERNOONS.—Those who might desire to call at the office of the American Bee Journal on Saturday afternoons during July, August, and September, will please remember that the office will be closed then. It is the custom of this office to close up during the time mentioned. We all need a little fresh air, and decided that there is no better time to take it in the whole year. So please call at any other time than that mentioned above.

* * * * *

MR. JOHN CALVERT, business manager of The A. I. Root Co., sailed for Europe July 3, going with the Christian Endeavor hosts to the International convention in London. Here is what he said further about his trip across the water:

> "After spending ten days in London and vicinity we sail to Antwerp, and spend three weeks on the continent, visiting points of interest in Belgium, Germany, Switzerland, and the World's Fair in Paris. Returning to Great Britain we spend about three weeks longer visiting business acquaintances and friends, and may also attend the International Bee-Keepers' Congress in Paris in September."

* * * * *

AN ERROR CORRECTED.—Some time ago we publisht an item from a California newspaper which said that a Mr. Crowder, in that State, had 3,000 colonies of bees. Editor Root questioned the correctness of the statement, and so Mr. John H. Martin investigated the matter, reporting his finding in this paragraph in Gleanings in Bee-Culture:

> "About that Mr. Crowder and his 3,000 colonies of bees, the statement of which was publisht in the American Bee Journal, and quoted from a Tulare paper. I am informed by parties who live near Mr. Crowder, that he has only about 800 colonies. The 3,000 story was a sensational and gross exaggeration."

We are glad to be able to make the correction, and can only regret having publisht the erroneous figures in the first place. However, as doubtless no real harm has resulted, perhaps we may be forgiven this time—provided we promise not to do it again.

* * * * *

ONE ON HASTY.—Like Bro. Doolittle's old Dutchman, I should like to "arise and ask" what's the matter with E. E. Hasty? Let me quote what he says on page 343, American Bee Journal: "Your best girl, if rescued from the ruins of a house wreckt by a tornado." That's a whole romance in a nutshell. When a staid old bachelor like Hasty gets to raving about best girls and tornadoes, there's something worse than a tornado behind it. Yes, sir; it is a strong indication of matrimony. Didn't think that of you, Bro. Hasty (tears, onions in my handkerchief).—J. H. MARTIN, in Gleanings in Bee-Culture.

Now, that's a pretty how d' ye do. First thing we know, both of them—Hasty and Martin—will be "taken in" by "best girls." Then there *will be* tornadoes and sich like. But, then, any man—or two men—that will persist in going it alone as long as Hasty and Martin have been at it, deserves a good shake up. And if it takes two "best girls" to do it—and they do it well—we'll hurrah for the "best girls." (Please signal us when it's time to hurrah.)

Queenie Jeanette is the title of a pretty song in sheet music size, written by J. C. Wallenmeyer, a musical bee-keeper. The regular price is 40 cents, but to close out the copies we have left, we will mail them at 20 cents each, as long as they last. Better order at once, if you want a copy of this song.

H. G. Quirin, the Queen-Breeder,
Is as usual again on hand with his improved strain of
GOLDEN
ITALIAN QUEENS.

Our largest orders come from old customers, which proves that our stock gives satisfaction. We have 12 years' experience in rearing queens, and if there is any one thing we pride ourselves in, it is in sending all queens promptly **BY RETURN MAIL.** We guarantee safe delivery.

Price of Queens after July 1.	1	6	12
Warranted	$ .50	$ 2.75	$ 5.00
Selected warranted	.75	4.00	7.00
Tested	1.00	5.00	9.00
Selected tested	1.50	8.00	
Extra selected tested, the best that money can buy	3.00		

Address all orders to
H. G. QUIRIN, Parkerstown, Erie County, Ohio.
(Money Order Office, Bellevue, O.)
23A14t Please mention the Bee Journal.

☞ IF YOU WANT THE
BEE-BOOK
That covers the whole Apicultural Field more completely than any other publisht, send $1.25 to Prof. A. J. Cook, Claremont, Calif., for his
Bee-Keepers' Guide.
Liberal Discounts to the Trade.

Best on Earth
What? Our New Champion Winter-Case. And to introduce it thruout the United States and Canada we will sell them at a liberal discount until Oct. 15, 1900. Send for quotations. We are also headquarters for the No-Drip Shipping-Cases.
R. H. SCHMIDT & CO.
Sheboygan, Wisconsin.
Please mention Bee Journal when writing.

BEE-SUPPLIES!
☞Root's Goods at Root's Prices☜
Pouder's Honey-Jars and everything used by bee-keepers. Prompt Service—low freight rate. Catalog free. **WALTER S. POUDER,**
512 Mass. Ave., Indianapolis, Ind.
Please mention Bee Journal when writing.

CHEAP FARM LANDS
Located on the Illinois Central R.R. in
SOUTHERN ILLINOIS
And also located on the Yazoo & Mississippi Valley R.R. in the famous
YAZOO VALLEY
of Mississippi—specially adapted to the raising of
CORN AND HOGS.
Soil Richest in the World.
Write for Pamphlets and Maps.
E. P. SKENE, Land Commissioner,
Ill. Cent. R.R. Co., Park Row, Room 413,
24A24t CHICAGO, ILL.
Please mention Bee Journal when writing.

GENERAL ITEMS

There's Music in the Air To-Day.

BY DAVID HALL.

Oh! there's music in the air to-day, for in the forest near,
The lindens are in blossom and the bees
Are making that glad murmur so delightful to the ear—
Dear as the sweetest choral symphonies.

From each hive they're rushing wildly in their eagerness to win
The wealth within those nectar-laden flowers;
And toiling home with weary wing, just see them tumble in—
From early morn till twilight's golden hours.

How it warms the heart and stirs the pulse, at such a scene as this,
And the bee-keeper who has not felt its power
Has not yet attained that eminence in earthly bliss
Which the buoyant heart demands in such an hour.

Then, woodman, spare the linden-tree, preserve its generous shade,
Its beauteous form now waving in the breeze;
For memories dear come back to me, how I in childhood played
There, listening to the humming of the bees.

Wyoming Co., N. Y., July 8.

Alfalfa as a Honey-Plant.

Referring to Australian honey-plants, on page 425, lucerne or alfalfa is mentioned as not yielding any honey until the third year. That is true for this (Atchison) county. Three years ago I sowed some alfalfa south of my apiary, but I have not at any time seen on it over 10 bees to the acre, and I have kept close watch, too, because this field is where I pass along several times very nearly every day, if I am at home. Alfalfa is on both sides the road, but this year, from the second crop of alfalfa the air is scented and full of bees humming going from and to the patch.

There was much white clover here this year, in my bee-range, there being about 1,000 acres, counting 1½ miles each way. This is a good honey-year for my bees. ALBERT WILTZ.

Atchison Co., Kan., July 9.

Light White Honey Crop.

The white honey crop is going to be quite light in this vicinity. Basswood was full of bloom, but yielded little nectar. White clover is coming up quite profusely since the heavy rains, and may yield some honey. I am looking for a good fall flow.

C. H. STORDOCK.

Winnebago Co., Ill., July 11.

Introducing a Capt Queen-Cell.

Often the question is askt, how can I introduce to a queenless colony a capt queen-cell, and protect it from being torn down? The best plan that I know of, and I've tried more than one, is to take a wire-cloth cone—such as is used in bee-escapes—and carefully insert the queen-cell, so that the capping shall just protrude thru the apex of the cone; then carefully fold the corners together and give the points a twist so that they will not separate, and you have a protector that is complete.

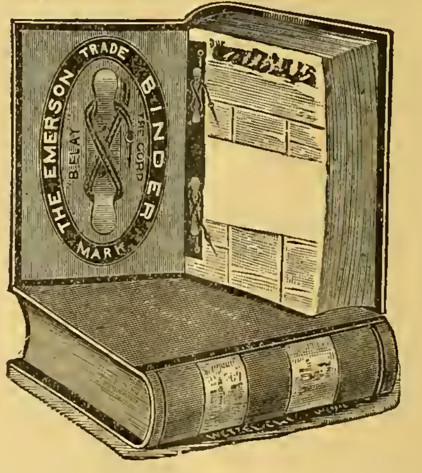
Place the cell thus protected between

Belgian Hares!
IMPORTED
Pedigreed Stock!
Does bred to imported Bucks, $25.00 and up. Young from imported, $6.00 and up.
J. RAMSPERGER,
758 Bryn Mawr Ave., CHICAGO, ILL.
Please mention Bee Journal when writing.

DITTMER'S FOUNDATION
Wholesale and Retail
This foundation is made by an absolutely non-dipping process, thereby producing a perfectly clear and pliable foundation that retains the odor and color of beeswax, and is free from dirt.
Working wax into foundation for cash, a specialty. Write for samples and prices.
A full line of Supplies at the very lowest prices, and in any quantity. Best quality and prompt shipment. Send for large, illustrated catalog.
GUS. DITTMER, Augusta, Wis.
Beeswax Wanted.
Please mention Bee Journal when writing.

PATENT WIRED COMB FOUNDATION
Has no Sag in Brood-Frames.
Thin Flat-Bottom Foundation
Has no Fishbone in the Surplus Honey.
Being the cleanest is usually workt the quickest of any foundation made.
J. A. VAN DEUSEN,
Sole Manufacturer,
Sprout Brook, Montgomery Co., N.Y.
Please mention Bee Journal when writing.

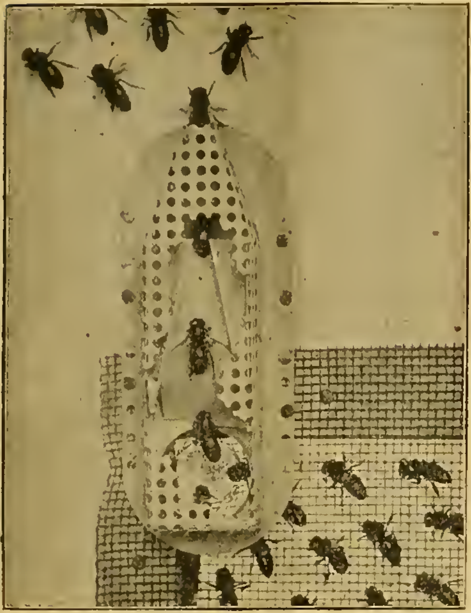
The Emerson Binder



This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.
GEORGE W. YORK & CO.
118 Michigan Street, CHICAGO, ILL.

Sharples Cream Separators: Profitable Dairying

The Porter Spring Honey-House Escape

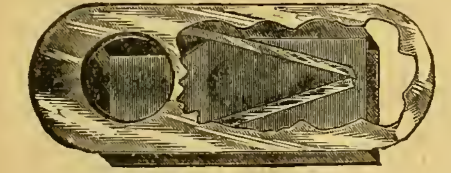


Shown in use on a window screen, reduced in size one-half, and having a part of the exterior broken away to give a view of the springs, is a perfect device for getting the bees out of extracting-rooms, house-apiaries, piles of supers, etc. It permits the bees to pass out thru it easily and rapidly, yet it absolutely prevents their return or the entrance of the most persistent robbers. Without a trial it is difficult to realize its value to the apiarist.

Mr. Kretchmer says of it: "I hasten to express to you my admiration for an article I have been waiting for so long a time. It is just the thing." And all who have used it similarly commend it.

DIRECTIONS.—Tack the escapes as shown in the engraving over holes puncht thru the wire cloth at the upper corners of each window on which they are to be used, or over holes bored wherever convenient, if the enclosure is without windows.

PRICES: Each, 25c; per dozen, $2.75, postpaid.



The Porter Spring Hive-Escape for getting the bees out of the super automatically before removal from the hive, which is similar to the escape shown above, is one of the most popular and useful apicultural implements of the day, and its friends have been gained by substantial merit alone. At the Columbian Exposition it won the highest and only award given an escape. Leading bee-keepers the world over use these escapes and give them their unqualified endorsement. Directions for use with each escape.

A Few Extracts from Testimonials:

They are perfect in action.—British Bee Journal.

I would not do without them if they cost $5.00 apiece.—Wm. Muth-Rasmussen, Independence, Calif.

Bee-men are certainly behind the times if they can afford to use them and do not.—M. H. Mendleson, Ventura, Calif.

We cannot too highly recommend them. We intend to use them in all our apiaries hereafter.—Chas. Dadant & Son, Hamilton, Ill.

I have 85 of them in use and don't see how I could possibly get along without them.—John Nippert, Phœnix, Ariz.

The most sting-proof bee-keeper will appreciate the Porter Bee-Escape with the first attempt and place it among the indispensables of the apiary.—Chas. F. Muth, in American Bee Journal.

The Porter Bee-Escape clears the super of bees so quickly and perfectly and easily that it makes the taking-off of honey a pleasure instead of a dread as in former years.—G. M. Doolittle, Borodino, N. Y.

PRICES: Each, 20c; per dozen, $2.25, postpaid. Order of your dealer, or of

THE A. I. ROOT CO., Medina, Ohio,
General Agents for the U. S.

the top-bars in the center of the colony, properly cover it up, and in due time the young queen will emerge and be accepted. I've introduced many in this manner, and have yet to record a failure. The cones can be made by any one, about as fast as he can count, if he is a little slow in counting.

We have a bee-keeper in this town who told me a few days ago that he once ate 3 pounds and 8 ounces of honey at a sitting. Next.

WM. M. WHITNEY.

Kankakee Co., Ill.

Not Much Surplus Honey.

There has not been much surplus honey gathered in this neighborhood. Bees swarmed freely the last of May and the first part of June. We had no rain for about a month, so there has been no nectar for them to find of late. The first growth of alfalfa the bees did not work on, and the second growth with rain does not seem to yield much, but on buckwheat bloom the bees are very busy. But how the supers will be is hard to tell.

Comb honey sells from 15 to 20 cents a pound, and very little found at those prices.

R. C. SUPPE.

Woodson Co., Kans., July 10.

Not a Fourth of a Crop.

I am sorry to say that the honey harvest is over here, and we have not harvested ¼ of a crop. The last week of hot weather with high wind has dried up all white clover, and there are no prospects for any fall honey of any kind. Bees swarmed very little—out of 215 colonies I had only about 20 swarms. Bees are idle now.

N. STAININGER.

Cedar Co., Iowa, July 9.

Severe Drouth in Minnesota.

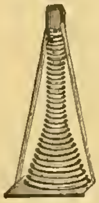
We have past thru the severest drouth Minnesota has ever experienced. The rains have come now, and will help us out in a good many things, but is too late for wheat and oats, also for honey. Basswood is nearly over, and it yielded very little honey. The most

If You Want Bees

That will just "roll" in the honey, try Moore's **Strain of Italians**, the result of 21 years of careful breeding. They have become noted for honey-gathering, whiteness of cappings, etc., thruout the United States and Canada.

Warranted Queens, 75c each; 6 for $4.00; 12 for $7.50. Select warranted, $1.00 each; 6 for $5.00; 12 for $9.00. Strong 3-frame Nucleus with warranted Queen, $2.50. Safe arrival and satisfaction guaranteed. Circular free.

27Dtf **J. P. MOORE (lock box 1) Morgan, Ky.**
Please mention Bee Journal when writing



Queen-Clipping Device Free....

The MONETTE Queen-Clipping Device is a fine thing for use in catching and clipping Queens wings. We mail it for 25 cents; or will send it FREE as a premium for sending us ONE NEW subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,

GEORGE W. YORK & COMPANY,
118 Michigan St., Chicago, Ill.

Albino Queens by return mail. Untested, 75 cts.; warranted, $1.00; tested, $1.25.
12A26t **J. D. GIVENS, LISBON, TEX.**
Please mention Bee Journal when writing.

Belgian Hares

Pedigreed and Unpedigreed Hares, any age, for sale.

J. S. MESSICK,
LIBERTY, - MISSOURI.
29A13t Please mention the Bee Journal.

Bees for Sale PRIME STOCK. NO DISEASE.
Write for prices. H. Lathrop, Browntown, Wis.
26A4t Please mention the Bee Journal.

M. H. HUNT & SON,

SELL ROOT'S GOODS AT ROOT'S PRICES. Our inducements are first-class goods, cheap freight rates, and prompt shipments. Send for catalog. **BELL BRANCH, MICH.**
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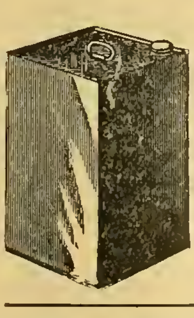
Second-Hand 60-pound Tin Cans Cheap!



We have a stock of second-hand 60-pound Tin Cans, put up two in a box, which are practically as good as new, each can having been carefully inspected by an expert honey-man before boxing them. While they last, we can furnish them at these low prices—just about one-half the cost of new cans:

10 boxes (or 20 cans) 50 cents per box; 20 boxes or over, 45 cents per box; 100 boxes or over, 40 cents per box.

Address, cash with order,

GEORGE W. YORK & CO.
118 Michigan Street, CHICAGO, ILL.

Northern Italian Queens!

Reared by the best methods from my **GREAT HONEY-GATHERERS.** Price, $1 each. Orders for queens to be filled in rotation beginning June 1st. Ready to book orders NOW.

ADA L. PICKARD,
RICHLAND CENTER, WIS.

Italian Queens!

reared from the best 3-band honey-gatherers, by the Doolittle method. Untested, 45 cents each; 1 dozen, $4.50. Tested, 75 cents each; 2-frame Nucleus, with tested queen, $1.75 each. No disease. Safe arrival.

W. J. FOREHAND,
19D12t **FORT DEPOSIT, ALA.**

The Bee-Keeper's Guide

Or, Manual of the Apiary,

—BY—

PROF. A. J. COOK.

460 Pages—16th (1899) Edition—18th Thousand—$1.25 postpaid.

A description of the book here is quite unnecessary—it is simply the most complete scientific and practical bee-book publisht to-day. Fully illustrated, and all written in the most fascinating style. The author is also too well-known to the whole bee-world to require any introduction. No bee-keeper is fully equipt, or his library complete, without THE BEE-KEEPERS' GUIDE.

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Given for TWO New Subscribers.

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Send us TWO NEW SUBSCRIBERS to the Bee Journal (with $2.00), and we will mail you a copy of Prof. Cook's book FREE as a premium. Prof. Cook's book alone sent for $1.25, or we club it with the Bee Journal for a year—both for only $1.75. But surely anybody can get only TWO NEW SUBSCRIBERS to the Bee Journal for a year, and thus get the book as a premium. Let every body try for it. Will YOU have one?

GEORGE W. YORK & CO.,
118 Michigan Street, CHICAGO, ILL.

BY RETURN MAIL.

Golden Beauty Italian Queens,
Reared from imported mothers.

Untested, 50 cts.; 12 Untested, $5.50; Tested, $1.
J. S. TERRAL & CO., Lampasas, Texas.
18Atf Please mention the Bee Journal.

of the fall honey-plants are dead. If the bees get enough for their own use I will be thankful. E. B. LANGDON.
Douglas Co., Minn., July 7.

May Have to Feed for Winter.

Up to June 12 bees flourisht well, and stored a large amount of honey. As sourwood is not yielding nectar I am thinking that bee-keepers in tide-water Virginia will be compelled to feed for the coming winter, as I have to do when that source fails, and that has failed for the past 3 years.

I think that my bees are thru swarming, as I have not had any issue today. My spring count was 29 colonies, increast to 87, and I had several swarms go to the woods.

J. H. ALLEN.
Nansemond Co., Va., July 2.

A Queer Season for Bees.

This is a queer season. In early spring the bees gathered considerable honey, and they gather some yet, but it is rainy nearly every day, so the hives do not fill up very fast. The willow-herb is in full bloom now, fully a month earlier than usual.

HANS CHRISTENSEN.
Skagit Co., Wash., July 6.

Not a Favorable Season.

The season has not turned out as favorably as the early spring promist. June came first cool and dry, then hot, dry and windy. This pusht the bloom ahead rapidly, and while the season was short it did not yield heavy either, as is sometimes the case under such circumstances. Sweet clover, which usually begins to bloom about June 20th, is now almost ripe, the earliest I ever knew it to dry up. Basswood was

$5.00 per month will pay for medical treatment for any reader of the American Bee Journal. This offer is good for 3 months ONLY—from May 1 to Aug. 1. Dr. Peiro makes this special offer to test the virtue of small price for best medical services. Reply AT ONCE.

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34 Central Music Hall, CHICAGO.

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—AND—
Journal of Agriculture,
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A wide-awake, practical Western paper for wide-awake, practical Western farmers, stock-raisers, poultry people and fruit-growers, to learn the science of breeding, feeding and management. Special departments for horses, cattle, hogs, sheep, poultry and dairy. No farmer can afford to do without it.

It stands for American farmers and producers. It is the leading exponent of agriculture as a business, and at the same time the champion of the Agricultural States and the producer in politics. **Subscription, One Dollar a Year.**

☞ **Write for Sample Copy**

Adel Queens, $1 Each.

Send postal for dozen rates and description of bees. **HENRY ALLEY, Wenham, Mass.**
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Seasonable Offerings **Golden Yellow Italian Queens**

Now is the time to improve your strain of bees. The Queens I offer are the finest in the land. I sold quite a number this season and all are delighted with the quality and so will you be, at 75 cents each, by return mail.

60-pound Cans, two to Crate.

I have 400 crates of two 60-pound cans each that were used once, and are nearly as good as new. I offer until this lot is exhausted at 50c per crate, or 10 crates at 45c each. New crates of two 60-pound cans each cost 85c. Speak quick. Root's goods at Root's prices, also Muth's Jars. Send for Catalog. HONEY AND BEESWAX WANTED. **C. H. W. WEBER,**
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ARE YOU FULL OF GINGER? If you want health and vigor, good appetite and sound sleep, take **LAXATIVE NERVO-VITAL TABLETS,** the quick and safe cure for Constipation, Nervous Dyspepsia, Insomnia, Nervous Affections, the "Blues" and all attendant evils. It aids digestion, purifies the blood, strengthens the nerves, improves the appetite, induces sweet sleep, tones up the whole system and makes you a new creature. It not only makes you *feel* well, it makes you *really* well. It gives you that vim and vigor which makes life worth living.

LAXATIVE NERVO-VITAL TABLETS

F. B. W. Co.

It contains no narcotics nor bromides nor other injurious drugs. We give the formula with every box. You know exactly what you are taking. Originally put up for physicians' use. Ask your druggist for a **FREE SAMPLE.** If he hasn't it, don't take a substitute, but send us a stamp for our book on "Health" and we will send you a free sample, sufficient for you to try it and test its merits to your own satisfaction. *Isn't it worth trying free?* It positively cures. Price 10c and 25c per box. Don't delay sending.

The Modern Remedy Co., Kewanee, Ill.

also short, but not very "sweet," so our honey crop will be light this year.
E. S. MILES.
Crawford Co., Iowa, July 9.

Hardly Making a Living.

Bees are hardly making a living with basswood in bloom. They are working on over-ripe strawberries and red raspberries.
J. W. PARKER.
Onondaga Co., N. Y., July 7.

Basswood Almost a Failure.

Bees are doing well here on white clover, but basswood bloom has been almost a failure, on account of the cold and wet weather during its blooming time, which was of short duration this year.
N. YOUNG.
Hardin Co., Iowa, July 9.

A Short Report.

I started in the spring with 6 colonies in 8-frame single-story hives, and one colony in a two-story one. I divided them so as to give each hive four combs of brood and honey, or simply took one-half out, and put it into another hive, making 16 colonies in all. I have 16 strong colonies, and have taken 112 pounds of salable section honey; 14 colonies work in the sections well, but 2 won't work in them at all. I have baited them with partly filled sections, and the bees carry the honey down in the brood-chamber. The combs there seem to have plenty of honey in them.
FRED TYLER.
Mason Co., Ill., July 9.

A Thankful Bee-Keeper.

This report is a little premature, as our honey-flow is not over yet, but I am so thankful for what I have got so far that I could not wait any longer. The season here in fruit-bloom was perfect for the bees, and they filled the hives to overflowing, and increast wonderfully fast: but after that, until June 23d, they did nothing. On June 21st I found 3 colonies that had not one bit of honey in their hives, so I fed them on that date and the day after. There was no white clover here. On June 24th I found that there was some honey coming in, and on that date I put a hive on the scales, the record being as follows:

June 25	gain	5¾	pounds
" 26	"	5½	"
" 27	"	5¼	"
" 28	"	6	"
" 29	"	4	"
" 30	"	3¾	"
July 2	"	5	"
" 3	"	4	"
" 4	"	5½	"
" 5	"	5	"
Total		50¾	"

While this is no great yield, I think it is pretty good when the sugar-barrel in the fall was staring me in the face, for we have no fall flow in this vicinity. Basswood did a little here, and there was some alsike a mile or so away, but 2½ miles from here there is 17 acres of white clover that I am told the owner is going to let go to seed, and then cut it. It is a new venture with him, but he thinks it will yield between four and five bushels of seed to the acre. I think

SPECIAL NOTICE!

Last winter's cut of basswood is the whitest it has been for many seasons. We are now making sections out of this new stock and therefore are in a position to furnish you with the very finest quality in the market.

LEWIS WHITE-POLISHT SECTIONS

Are perfect in workmanship and color.

Orders shipt immediately upon receipt. A complete line of everything needed in the apiary. Five different styles of Bee-Hives.

Lewis Foundation Fastener simplest and best machine for the purpose. Price, ONE DOLLAR, without Lamp.

G. B. LEWIS CO., Watertown, Wis., U. S. A.

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E. T. ABBOTT, St. Joseph, Missouri.
Special Southwestern Agent.

SEND FOR CATALOG.

Four Celluloid Queen-Buttons Free
AS A PREMIUM.

OUR TOIL DOTH SWEETEN OTHERS

For sending us ONE NEW SUBSCRIBER to the Bee Journal for the balance of this year, with 50 cents, we will mail you FOUR of these pretty buttons for wearing on the coat-lapel. (You can wear one and give the others to the children.) The queen has a golden tinge. This offer is made only to our present regular subscribers.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate, it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

Prices of Buttons alone, postpaid: One button, 8 cts.; 2 buttons, 6 cts. each; 5 or more, 5 cts. each. (Stamps taken.) Address,

GEORGE W. YORK & CO., 118 Michigan St., CHICAGO.

QUEENS!

Untested Queens, Italian, 60 cents. Tested, $1.00.
From honey-gathering stock.
We keep in stock a full line of popular Apiarian Supplies. Catalog free.

Apiaries—Glen Cove, L. I. I. J. STRINGHAM, 105 Park Place, New York, N. Y.

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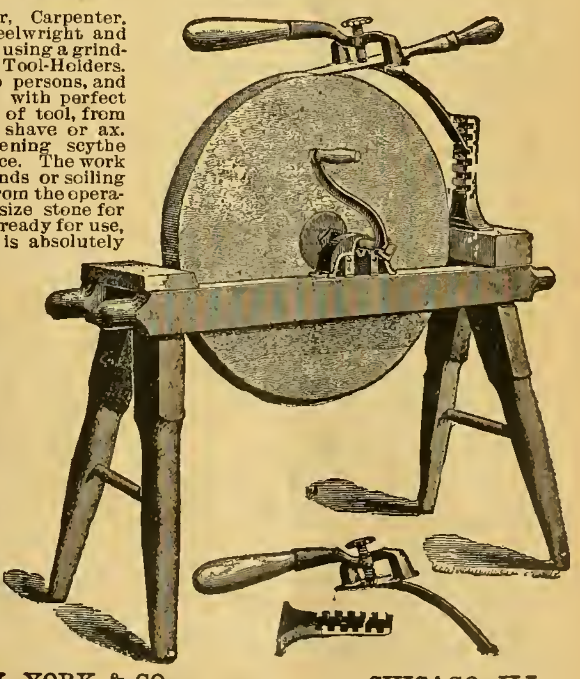
A HANDY TOOL-HOLDER!

Sent by Express, for $1.50; or with the Bee Journal one year—both for $2.00.



Every Manufacturer, Miller, Carpenter, Cabinet Maker, Machinist, Wheelwright and Quarryman, Farmer, or any one using a grindstone, should have one of these Tool-Holders. One boy can do the work of two persons, and grind much faster, easier and with perfect accuracy. Will hold any kind of tool, from the smallest chisel to a draw shave or ax. Extra attachment for sharpening scythe blades included in the above price. The work is done without wetting the hands or soiling the clothes, as the water flows from the operator. It can be attached to any size stone for hand or steam power, is always ready for use, nothing to get out of order, and is absolutely worth 100 times its cost.

No farm is well-equipped unless it has a Tool-Holder. Pays for itself in a short time.

How to Use the Holder.

DIRECTIONS.—The Tool is fastened securely in the Holder by a set-screw and can be ground to any desired bevel by inserting the arm of the Holder into a higher or lower notch of the standard. While turning the crank with the right hand, the left rests on an steadies the Holder; the Tool is moved to the right or left across the stone, or examined while grinding, as readily and in the same way as if held in the hands.

For grinding **Round-Edge Tools**, the holes in the standard are used instead of the notches.

Address, GEORGE W. YORK & CO., CHICAGO, ILL.

High Grade Italian Queens

One Untested Queen.....$ .60
One Tested Queen .... .80
One Select Tested Queen 1.00
One Breeder.............. 1.50
One-Comb Nucleus....... 1.00

27 Years Rearing Queens for the Trade.
We Guarantee Safe Arrival.

J. L. STRONG,
14Atf **CLARINDA, Page Co., IOWA.**
Please mention Bee Journal when writing.

Italian Queens.

	1	3	6
Untested Queens....	$0.90	$2.50	$4.50
Select Untested Queens........	1.25	3.25	6.00
Tested Queens....	1.25	3.50	7.00
Select Tested Queens	2.00	5.00	9.00

These Queens are reared from honey-gatherers. Orders filled in rotation. Nothing sent out but beautiful Queens.
27A5t **D. J. BLOCHER, Pearl City, Ill.**
Please mention Bee Journal when writing.

There is a Great Difference
between "hard wire" and "Page Wire."
PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.
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Second-Class Queens,
(What Becomes of Them?)

As to color of progeny there are some tested queens that are second-class, that are equal to any for business. That is, 3-band bees predominate in the offspring of golden mothers. These are sold at 50 cents each. If 5-band bees predominate, and do not exceed 80 percent, they are worth $1.00; above this and not to exceed 95 percent, $1.25; all of a higher grade and not uniformly markt, $1.50 each: while first-class breeders are placed at only $2.00.

Untested, either 3 or 5-band, 75c each; or 3 for $2.00. Money order office, Warrenton, N. C.

W. H. PRIDGEN,
24Atf **Creek, Warren Co., N.C.**
Please mention Bee Journal when writing.

Yellow Sweet Clover Seed

WE HAVE IT AT LAST!

We have finally succeeded in getting a SMALL quantity of the seed of the YELLOW variety of sweet clover. This kind blooms from two to four weeks earlier than the common or white variety of sweet clover. It also grows much shorter, only about two feet in hight. It is as much visited by the bees as the white, and usually comes into bloom ahead of white clover and basswood. We offer the seed as a preminm

A QUARTER POUND FOR SENDING ONE NEW SUBSCRIPTION.

So long as it lasts, we will mail a quarter pound of the seed to a regular paid-up subscriber who sends us ONE NEW subscriber for the American Bee Journal one year, with $1.00; or ¼ pound by mail for 30 cents.

We have been trying for years to secure this seed, and finally succeeded in getting it. It is new seed, gathered last season by an old personal friend of ours, so we know it is all right. But we have only a small supply. When nearly out we will mention it.

GEORGE W. YORK & CO.,
118 Michigan St., - CHICAGO, ILL.

Please mention Bee Journal when writing advertisers.

it will be a paying crop. The owner is not a bee-keeper, but he tells me the field is perfectly alive with bees, and when a storm comes up here, and the bees come home in a hurry, it seems they nearly all come from his direction, and as I know there is no bee-pasturage between my apiary and his field of white clover, I presume there is where some of my honey has come from.

I have been bothered with only a couple of swarms so far, and do not now expect any more. In fact, I am never bothered much with swarming for some reason. Altho I run for comb honey, my experience is at variance with others who have excessive swarming.

Well, I am thankful for what honey I have secured, and I do not have to feed this fall, as the prospect for so doing was so fair for the last month before the flow came.

The omission of weight on July 1st was caused by adding another case of 30 sections, it being a 10-frame hive.

One thing I have found out is, that it is as Mr. E. R. Root says, the double-deckers are not so good for comb honey until the deck is taken off at the commencement of the flow.

CHAUNCEY REYNOLDS.
Sandusky Co., Ohio, July 6.

Bees Hatching Hens' Eggs.

I have been using the plan of having the bees hatch hens' eggs all spring, and it is all that I have claimed for it. Out of 100, and perhaps a dozen more fertile eggs, every one hatcht a good, strong chick, no crooked legs or half-dead ones. I have applied, and shall have the plan before the public before next spring. It will be very cheap, and any bee-keeper can use it without much extra expense, as the bees are not interrupted in the least. I use a chaff hive for the purpose, with chaff cushions, which act as a hen, and the eggs are placed above the bees, where they are kept warm from Feb. 15th till late in the fall. I think after a person tries this plan he will have no use for complicated incubators or cross sitting-hens. I have had the plan in mind for three or four years, but this is the first time I have tested it, and I have never heard of it being used by any one before. JOHN G. NORTON.

McDonough Co., Ill., July 5.

The Glucose Yarn Still Going.

I clipt the following from a paper, it having been written by J. S. Trigg, Iowa's most noted agricultural writer:

> "Now here is a sweet, mean trick if ever there was one. A man in an eastern town keeps a lot of bees, and has discovered that if the bees can get glucose to eat they will not bother to forage for the sweets of the flowers, but will work most industriously filling the ready-made comb furnisht with glucose honey!"

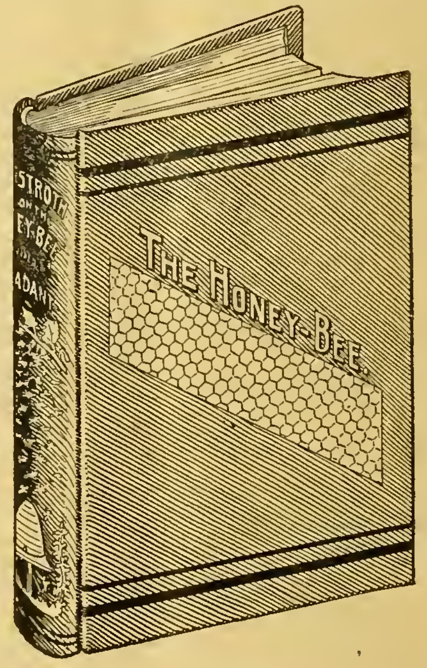
Of course, Mr. Trigg got the idea from the article referred to several times in the American Bee Journal.

Langstroth on... The Honey-Bee

Revised by Dadant—1899 Edition.

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains over 500 pages, being revised by those large, practical bee-keepers, so well-known to all the readers of the American Bee Journal—Chas. Dadant & Son. Each subject is clearly and thoroly explained, so that by following the instructions of this book one cannot fail to be wonderfully helpt on the way to success with bees.

The book we mail for $1.25, or club it with the American Bee Journal for


LANGSTROTH ON THE HONEY-BEE DADANT
THE HONEY-BEE

one year—both for $1.75; or, we will mail it as a premium for sending us THREE NEW subscribers to the Bee Journal for one year, with $3.00.

This is a splendid chance to get a grand bee-book for a very little money or work.

GEORGE W. YORK & CO.
118 Michigan Street, - CHICAGO, ILL.

Queens UNTESTED ITALIAN, 50 cents each; tested, $1 each. Queens large, yellow and prolific. Circular free.
21Atf Address, **E. W. HAAG, Canton, Ohio.**
Please mention Bee Journal when writing.

25 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying **25** cents a pound—CASH—for best yellow, upon its receipt, or 28 cents in trade. Impure wax not taken at any price.

Address as follows, very plainly,

GEORGE W. YORK & CO., 118 Michigan St., CHICAGO.

The tone of the clipping indicates that he is credulous in regard to the new discovery (?), and is intent upon giving it wide circulation. I have explained the matter the best I could in one of our county papers, but the lie is traveling fast.

Last week, when I was delivering some honey to one of my customers (a country merchant), the dealer said: "I hear a new method has been discovered for making honey so that the bees do not have to depend upon the flowers."

Suspecting what was coming, I askt, "Is that so? Why, how is it done? I am anxious to keep up with the times, and learn all the new methods."

He replied, "Why, J. S. Trigg says all you have to do is to feed the bees plenty of glucose, and they won't go near a flower."

Of course, I told him I had read Mr. Trigg's article, and explained how the story originated, etc.

But that is only one out of thousands who will read and believe the falsehood. I think all bee-keepers should take particular pains to set the matter right, not only by talking it to their customers, but thru their local newspapers.

My bees are doing fairly well on white clover yet. I am trying to keep down swarming, but I have 11 new swarms, the most of them issuing before the middle of June, from 25 old colonies. Nearly all are working in the sections, and quite a number are filling their third super of 24 sections.

Not long since I saw the statement (I am unable just now to find the page) that a good-sized swarm of 30,000 bees should weigh about 5½ pounds. I have weighed a number of prime swarms this season, and the lightest was 5 pounds, and they run from that to 8 pounds and 2 ounces. I use the 8-frame hive.

A. F. Foote.

Mitchell Co., Iowa, July 2.

American Enterprise at Paris.—Among the striking and original exhibits at the Paris Exposition of 1900 few have occasioned more favorable comment than the great map of the United States, 18x15 feet, exhibited by the well known advertising agency of Lord & Thomas, Chicago and New York. This map is constructed to show at a glance the various details concerning state areas and population, number of publications in each, circulation per issue, percentage of circulation to population, value of publishing plants, number of employes, average hours of labor, average wages paid and average cost per inch for yearly advertising. Information of this nature is of especial value to advertisers, showing as it does the best locations in which to place advertising to reach the greatest number of people and secure best results.

The firm of Lord & Thomas has been engaged in the general advertising business for over 30 years, and ranks among the largest in its line. They prepare advertisements for all classes of advertisers and place them in publications.

Copies of this valuable map will be sent free on request to all advertisers who address Lord & Thomas, Trude Building, Chicago.

California Queens.

OF PURE ITALIAN STOCK.
(THREE-BANDED.)

No other bees within a radius of TEN MILES. Eight years' experience in practical bee-keeping. Untested Queens, 90 cts. each; $9 per doz. Discounts after July 1. Write for price-list.

18A13t H. L. WEEMS, Hanford, Calif.

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BEE-BOOKS

SENT POSTPAID BY

George W. York & Co. 118 Mich. St. Chicago.

Bees and Honey, or Management of an Apiary for Pleasure and Profit, by Thomas G. Newman.—It is nicely illustrated, contains 160 pages, beautifully printed in the highest style of the art, and bound in cloth, gold-lettered. Price, in cloth, 75 cents; in paper, 50 cents.

Langstroth on the Honey-Bee, revised by Dadant.—This classic in bee-culture has been entirely re-written, and is fully illustrated. It treats of everything relating to bees and bee-keeping. No apiarian library is complete without this standard work by Rev. L. L. Langstroth—the Father of American Bee-Culture. It has 520 pages, bound in cloth. Price, $1.25.

Bee-Keepers' Guide, or Manual of the Apiary, by Prof. A. J. Cook, of the Michigan Agricultural College.—This book is not only instructive and helpful as a guide in bee-keeping, but is interesting and thoroly practical and scientific. It contains a full delineation of the anatomy and physiology of bees. 460 pages, bound in cloth and fully illustrated. Price, $1.25.

Scientific Queen-Rearing, as Practically Applied, by G. M. Doolittle.—A method by which the very best of queen-bees are reared in perfect accord with Nature's way. Bound in cloth and illustrated. Price, $1.00.

A B C of Bee-Culture, by A. I. Root.—A cyclopædia of 400 pages, describing everything pertaining to the care of the honey-bees. Contains 300 engravings. It was written especially for beginners. Bound in cloth. Price, $1.20.

Advanced Bee-Culture, Its Methods and Management, by W. Z. Hutchinson.—The author of this work is a practical and entertaining writer. You should read his book; 90 pages, bound in paper, and illustrated. Price, 50 cents.

Rational Bee-Keeping, by Dr. John Dzierzon.—This is a translation of his latest German book on bee-culture. It has 350 pages, bound in paper covers, $1.00.

Bienen-Kultur, by Thos. G Newman.—This is a German translation of the principal portion of the book called "Bees and Honey." 100-page pamphlet. Price, 25 cents.

Bienenzucht und Honiggewinnung, nach der neuesten methode (German) by J. F. Eggers.—This book gives the latest and most approved methods of bee-keeping in an easy, comprehensive style, with illustrations to suit the subject. 50 pages, board cover. Price, 50 cents.

Bee-Keeping for Beginners, by Dr. J. P. H. Brown, of Georgia.—A practical and condenst treatise on the honey-bee, giving the best modes of management in order to secure the most profit. 110 pages, bound in paper. Price, 50 cts.

Bee-Keeping for Profit, by Dr. G. L. Tinker.—Revised and enlarged. It details the author's "new system, or how to get the largest yields of comb or extracted honey." 80 pages, illustrated. Price, 25 cents.

Apiary Register, by Thomas G. Newman.—Devotes two pages to a colony. Leather binding. Price, for 50 colonies, $1.00; for 100 colonies, $1.25.

Dr. Howard's Book on Foul Brood.—Gives the McEvoy Treatment and reviews the experiments of others. Price, 25 cents.

Winter Problem in Bee-Keeping, by G. R. Pierce.—Result of 25 years' experience. 30 cts.

Foul Brood Treatment, by Prof. F. R. Cheshire.—Its Cause and Prevention. Price, 10 cts.

Foul Brood, by A. R. Kohnke.—Origin, Development and Cure. Price, 10 cents.

Capons and Caponizing, by Dr. Sawyer, Fanny Field, and others.—Illustrated. All about caponizing fowls, and thus how to make the most money in poultry-raising. 64 pages. Price, 20c.

Our Poultry Doctor, or Health in the Poultry Yard and How to Cure Sick Fowls, by Fanny Field.—Everything about Poultry Diseases and their Cure. 64 pages. Price, 20 cents.

Poultry for Market and Poultry for Profit, by Fanny Field.—Tells everything about Poultry Business. 64 pages. Price, 20 cents.

BEES QUEENS
Smokers, Sections,
Comb Foundation
And all Apiarian Supplies
cheap. Send for
FREE Catalogue. E. T. FLANAGAN, Belleville, Ill.

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HONEY AND BEESWAX

MARKET QUOTATIONS.

Chicago, July 7.—Some new white comb honey is selling at 15c; not much offered and not much demand for it. Extracted is slow sale; best white, 7@7½c; best amber, 6½@6¾c; dark amber, 5@5½c. Beeswax, 27@28c.

R. A. Burnett & Co.

Cincinnati, July 2.—This market is completely bare of comb honey. The demand for extracted honey is good. Several good shipments of extracted honey from Mississippi and Arkansas have arrived and found a ready sale at 6½@7½c. No white clover honey on the market; same would bring about 8c. Beeswax, 25@26c.

C. H. W. Weber, 2146 Central Ave.

Buffalo, June 20.—For strictly fancy white one-pound comb honey we are getting 16@17c. Any grade sells high—10@15c, as to grade.

Batterson & Co.

Kansas City, June 20.—We quote: No. 1 white comb, 14@15c; No. 1 amber, 13@14c; No. 2 white and amber, 13@13½c. Extracted, white, 7½@8c; amber, 7c. No beeswax in the market.

We have a shipment of new comb honey in transit from Florida. The supply of old comb honey is very light, mostly candied.

C. C. Clemons & Co.

Detroit, May 24.—Fancy white comb, 15@16c; No. 1, white, 14@15c; amber and dark, 10@12c. Extracted, white, 7c; amber and dark, 5@6c. Beeswax, 25@26c.

Supply and demand for honey both limited.

M. H. Hunt & Son.

New York, May 21.—Our market is practically bare of comb honey, and there is a good demand for white at from 13@15c per pound, according to quality and style of package. The market on extracted is rather quiet, and inactive. New crop is slow in coming in, and prices have not yet been establisht. Beeswax holds firm at 27@28c. Hildreth & Segelken.

San Francisco, July 3.—White comb, 12@12½c; amber, 8@10c. Extracted, white, 6½@7c. light amber, 5¾@6¼c; amber, 5¼@5¾c; Beeswax, 26@27c.

The market is fairly supplied with amber extracted, which is arriving mainly from the San Joaquin section, and is meeting with a moderate demand at current rates, both for shipment and local use. Water white honey is scarce, either comb or extracted. Choice comb is inquired for, and in a small way is salable over figures warranted as a regular quotation.

WANTED—HONEY AND BEESWAX.

We have a tremendous and growing trade in this line, and would like to hear from all who have such goods to sell in any part of the country, with quality, description, and lowest cash price. Thos. C. Stanley & Son, Fairfield, Ill.

WANTED COMB HONEY AND EXTRACTED HONEY. Will buy your honey, no matter what quantity. Mail sample with your price expected delivered in Cincinnati. I pay cash on delivery. C. H. W. WEBER, 2146 Central Ave., Cincinnati, Ohio.

Belgian Hare Guide AND DIRECTORY OF BREEDERS. Price 25c.
Inland Poultry Journal Co., Indianapolis, Ind.

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MARQUETTE, ON LAKE SUPERIOR,

is one of the most charming summer resorts reacht via the Chicago, Milwaukee & St. Paul Railway.

Its healthful location, beautiful scenery, good hotels and complete immunity from hay fever, make a summer outing at Marquette, Mich., very attractive from the standpoint of health, rest and comfort.

For a copy of "The Lake Superior Country," containing a description of Marquette and the copper country, address, with four (4) cents in stamps to pay postage, Geo. H. Heafford, General Passenger Agent, Chicago, Ill.

We have a Large Stock on hand and can ship promptly.

SEND US YOUR ORDERS FOR

Hives, Extractors

OR ANYTHING YOU WANT IN THE BEE-KEEPING LINE.

WE MAKE ONLY THE BEST.

Our Falcon Sections and New Process Foundation are ahead of everything, and cost no more than other makes. New Catalog and copy of THE AMERICAN BEE-KEEPER free. Address,

THE W. T. FALCONER MFG. CO.,
JAMESTOWN, N. Y.

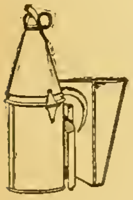
☞ W. M. GERRISH, East Notingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.

Please mention Bee Journal when writing.

MADE TO ORDER.

BINGHAM BRASS SMOKERS

made of sheet-brass which does not rust or burn out should last a life-time. You need one, but they cost 25 cents more than tin of the same size. The little pen cut shows our brass hinge put on the three larger sizes.



No wonder Bingham's 4-inch Smoke Engine goes without puffing and does not

DROP INKY DROPS.

The perforated steel fire-grate has 381 holes to air the fuel and support the fire.

Prices; Heavy Tin Smoke Engine, four-inch Stove, per mail, $1.50; 3½-inch, $1.10; three-inch, $1.00; 2½-inch, 90 cents; two-inch, 65 cents.

Direct-Draft Perfect
BINGHAM
BeeSmoker
PATENTED

BINGHAM SMOKERS

are the original, and have all the improvements, and have been the STANDARD OF EXCELLENCE for 22 years. Address,

T. F. BINGHAM,
Farwell, Mich.

I ARISE

To say to the readers of the BEE JOURNAL that

DOOLITTLE...

has concluded to sell QUEENS in their season during 1900, at the following prices:

1 Untested Queen	$1.00
3 Untested Queens	2.25
1 Tested Queen	1.25
3 Tested Queens	3.00
1 select tested queen	1.50
3 " " Queens	4.00
Select Tested Queen, last year's rearing	2.50
Extra selected breeding, the very best	5.00

Circular free, giving particulars regarding each class of Queens, conditions, etc. Address,

G. M. DOOLITTLE,
11A26t Borodino, Onondaga Co., N. Y.

Please mention Bee Journal when writing Advertisers.

23rd Year **Dadant's Foundation.** 23rd Year

Why does it sell so well?

Because it has always given better satisfaction than any other.
Because in 23 years there have not been any complaints, but thousands of compliments.

We guarantee satisfaction.

What more can anybody do? BEAUTY, PURITY, FIRMNESS, No SAGGING, No LOSS.
PATENT WEED PROCESS SHEETING.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

BEE-KEEPERS' SUPPLIES OF ALL KINDS.

Langstroth on the Honey-Bee, Revised.

The Classic in Bee-Culture—Price, $1.25, by Mail.

Beeswax Wanted at all times. **CHAS. DADANT & SON,**
Hamilton, Hancock Co., Ill.

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California! If you care to know of its Fruits, Flowers, Climate or Resources, send for a sample copy of California's Favorite Paper—

The Pacific Rural Press,

The leading Horticultural and Agricultural paper of the Pacific Coast. Published weekly, handsomely illustrated, $2.00 per annum. Sample copy free.

PACIFIC RURAL PRESS,
330 Market Street, - SAN FRANCISCO, CAL.

FREE FOR A MONTH....

If you are interested in Sheep in any way you cannot afford to be without the best Sheep Paper publisht in the United States.

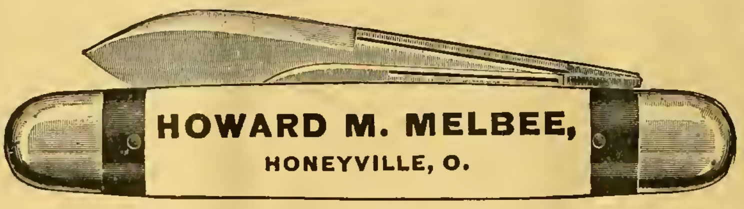
Wool Markets and Sheep

has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.

WOOL MARKETS AND SHEEP, CHICAGO, ILL.

The Novelty Pocket-Knife.

Your Name and Address on one side—Three Bees on the other side.



[THIS CUT IS THE FULL SIZE OF THE KNIFE.]

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and in case of death, your relatives will at once be notified of the accident.

How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

How to Get this Valuable Knife.—We send it postpaid for $1.10, or give it as a Premium to the one sending us THREE NEW SUBSCRIBERS to the Bee Journal (with $3.00.) We will club the Novelty Knife and the Bee Journal for one year, both for $1.90.

GEORGE W. YORK & CO., 118 Mich. St., Chicago, Ill.

☞Please allow about two weeks for your knife order to be filled.

GEORGE W. YORK, Editor.

AMERICAN BEE JOURNAL.

ESTABLISHT IN 1861 OLDEST BEE-PAPER IN AMERICA

DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS.

40th YEAR. CHICAGO, ILL., JULY 26, 1900. No. 30.

CONTRIBUTED ARTICLES

Growing Crimson Clover as a Honey-Plant.

BY F. GREINER, ONTARIO CO., N. Y.

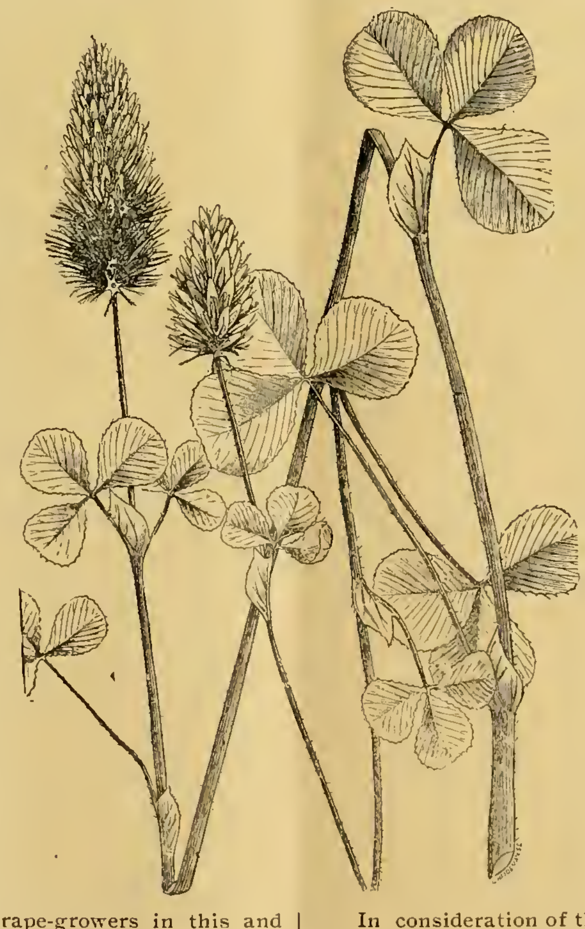
BEFORE long it will be time to sow crimson clover again, and I would like to say a few words in regard to this clover as a honey-plant, with that end in view of interesting the bee-keeping fraternity in it so as to induce them to grow it more extensively not only to furnish pasture for their bees, but also to enrich their land.

My experience is as follows: A year ago (in July) I sowed my plum orchard of two acres or more to crimson clover, sowing about 15 quarts per acre—perhaps 12 quarts might have answered. It came up nicely, and tho we had an unprecedented drouth, it made fine growth and soon covered the ground. It was a gratifying sight even during the winter, for it retained that beautiful green color we so admire in our meadows and pastures when the grass first starts in the spring. In the most bleak places the clover winter-killed, but outside of that it started nicely in the spring.

It commenced blooming the last of May. and continued to June 10, during which time it was freely visited by the bees.

It may be observed that this span of time—from the last of May to June 10—is just exactly that dull time occurring every year between the fading of the apple-bloom and the beginning of the raspberry and white clover honey-season. The crimson clover is therefore all the more valuable as a honey-plant.

I notice it had a most beneficial effect on the land, plowing up quite mellow where formerly it had been quite hard. Some grape-growers in this and adjoining vicinities sow crimson clover in their vineyards, let the seed get about ripe, then plow the crop under. They tell me it will thus seed itself.



I am not able to give exact data as to the amount of honey crimson clover yields, but judging from the number of bees engaged all day long gathering the honey, I should say it would excel the white clover and buckwheat for the time it lasts, and might be considered a close rival of the basswood. In fact, I have but few times seen as many bees at work at a time as I had occasion to observe in my clover field. At times I counted 20 bees to the square foot, of which three out of every four were gathering honey.

Supposing the bees would evenly distribute at that rate over an acre of crimson clover while in bloom, 861,200 bees would find room and employment on the same at one time. If I now assume that every colony of bees has 20,000 workers to spare for outdoor labor at this time of the year, that would perhaps be an estimate fully high enough. By dividing the former number by the latter we find that it would require 43 colonies to furnish the workers necessary for one acre of crimson clover; 100 colonies would need about 2½ acres at the same ratio. It would perhaps be unreasonable to assume that 100 colonies of bees could be fully employed on 2½ acres of ground; but it would seem as tho 25 acres might be sufficient, providing there is an even stand of clover all over the field.

Now, perhaps my figures are not very reliable, and prove nothing, still the fact cannot be dodged that I found from 10 to 20 honey-bees per square foot busy in my clover, not counting the bumble-bees and other insects. Therefore it seems to me by providing a few acres of crimson clover, blooming as it does at a time when other bloom is scarce, we could greatly benefit our bees. It would, of course, be necessary to allow the clover to form seed and not plow it under too soon.

The seed of this clover finds a ready sale at a fair price, and it would seem that even the farmers who are not bee-keepers might be induced to grow it just for the seed, if nothing more. Bee-keepers might even pay a premium to farmers in their vicinities. I believe I could afford to pay 75 cents or $1.00 for every acre sown within one mile of my apiaries.

In consideration of the fact that the majority of bee-keepers are also engaged in farming, some of them quite extensively so, would it not be a wise thing for them to devote a portion of their farms to crimson clover?

Managing Out-Apiaries for Extracted Honey.

BY N. E. FRANCE.

EACH bee-keeper should study the various ways of others, and then apply such methods as will best suit his location and circumstances. With us, bees wintered in the cellar would often be weaker in numbers the last of April and May than when taken out of the cellar, while those wintered in large chaff hives on the summer stands would be strong and by far the more profitable. So that, for the last 20 years, our bees have been mostly in these chaff hives, which are simply four standard Langstroth hives inside, combined into one hive or house, with a 2-inch space on the outside for chaff filling. Each colony is separate from the others, one entrance on a side, but in winter weather the bees cluster near the center of the hive, and thus help to keep each other warm. See the picture herewith of an empty hive, showing brood-frames in hive-body, button over upper entrance turned to one side as in summer; second story by the side of the hive; top and side next to the stack showing chaff wall with a strip of tin on two upper stories of the hive to prevent any chance for bees to pass from one colony to another. When two sets of extracting-combs are to be used, the cover is raised in place by use of the board band, which is hookt together and set on the hive proper. One-half of this band is laid on the grass, with the queen-excluding zinc leaning against the hive by it. The hinged cover is turned back one way while working two colonies, and reverst when working the others—so that there is no need of lifting any covers. A plain band made of common fencing forms the stand for the hive, and is leveled before the hive is put on it.

If the bees have plenty of good honey and a young fertile queen early in the fall, we seldom have any loss. On an average, not over three to five percent. I do not recommend this hive, nor advise those having single hives, and who can winter bees successfully in the cellar, to change to our method or kind of hive. The bees consume a little more food in chaff hives than in a cellar, so, if you can, keep the cellar dry, well ventilated, of uniform temperature, about 45 degrees with strong colonies and good feed, and don't be in too great a hurry to get the bees out in the spring.

In warm weather in the spring I examine each colony, and see if they need any feed or help; and, if so, give them next to the brood a comb of honey that I may find in some queenless colony that has lost its queen during the winter; or, perhaps, exchange an empty comb for a comb of honey from some colony that can spare it. When dandelion bloom appears, I again examine each colony, clipping the queen's wings, putting the brood from the second story down below, and putting empty combs above. If a colony has a good queen, but the colony itself is not as good as desired, I take from the strongest colonies one or two brood-combs covered with bees, and give them to the weaker.

When there is nothing for the bees to gather in the spring, we use a hive-tent; for by its use we can work in the apiary all day and not have any colony of bees disturbed by robber-bees. Our tent is made of a light frame, and covered with cheese-cloth, with an outlet at the top to let out bees that may alight on the inside while we are at work. If I were to make a tent in which to work single-colony hives, I would use three light frames covered with wire-cloth and hinged together, so it could be folded and easily stored away when not in use.

From the best colony in the apiary I select choice worker-combs full of eggs to rear my queens for that apiary; buying new queens, one or two each year, to introduce new blood. As my bees are mostly in out-apiaries, from three to five miles from home, and no one there to look after them when we are away, I do not allow natural swarming, but divide as occasion requires.

When white clover begins to yield honey we extract all the store-combs to get out this amber grade from fruit-bloom and dandelions, as its color and flavor should not be mixt with the better grades. Great care is taken to keep each grade separate, and to see that each package is markt, showing the weights and the source from which the honey is gathered. No honey is allowed to be extracted until fully ripened; and, generally, all capt over. If unripened honey is put on the market it will soon spoil and ruin the market. Good, ripened honey, if kept in a dry room, will keep for years. I have some good honey in common glass jars that I extracted 22 years ago, and it promises to remain good so long as not sampled too often.

Towards the close of the honey-flow we make sure to save enough good combs of honey to feed the bees until dandelion bloom next season. I am often askt, "How much honey is necessary to winter a colony of bees?" My reply is, "A little too much feed in the fall will be just enough next spring." Wisconsin bee-keepers lost 70 percent of their bees last winter, not all for want of honey, but in many places in the State, in May, I found dead or weak colonies without honey.

When our honey season is over the extra combs, after being cleaned up by the bees, are stored in racks in the bee-house, the hive-entrance nearly closed up by the large button, and the little space over the bees, under the roof, filled with dry oats chaff or straw. This is all the work we do to fit our bees for winter.

Allow me to describe some of the methods of handling the six or seven hired, inexperienced boys from 15 to 20 years of age. I board them for the days they help me, about four weeks, and pay from $12 to $20 per month. Each one, by number, has duties assigned, and will take special interest in his work, and soon become an expert in his department. Each is furnisht a good straw hat and bee-veil to take care of and return at the close of the season.

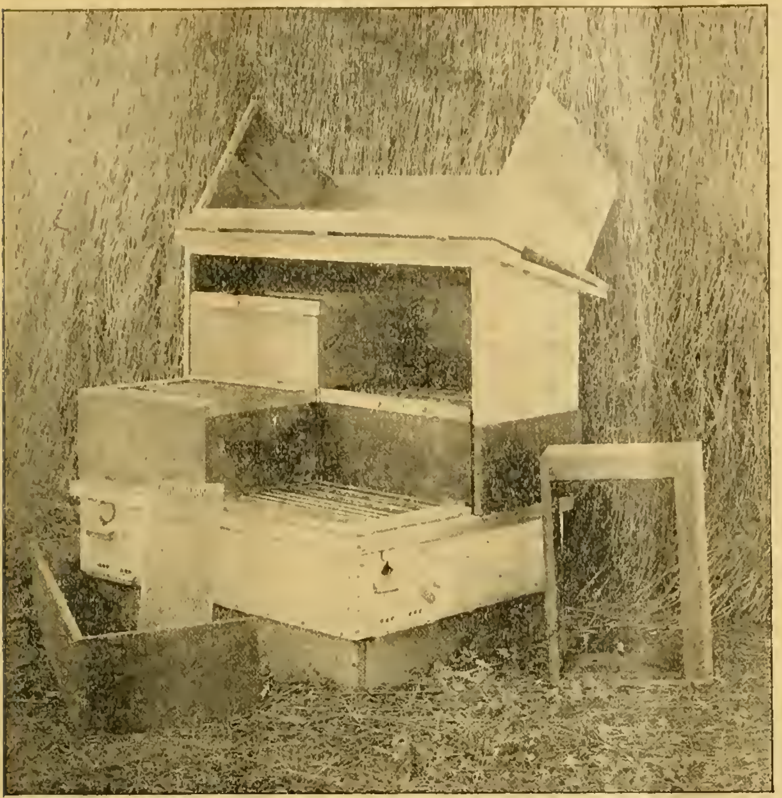
As we near an out-apiary, each man gets his trousers adjusted bee-tight at the ankles, and veil on his hat ready for business. Each apiary is located on a gentle slope to the south, with a heavy timber wind-break on the north and west, and a private road from the upper side of the apiary, thru the yard by the side of the extracting-house that is in the center of the yard. This road leads on down the slope below the apiary, so that the wagons, when loaded, can be run by hand easily to a safe distance in the grove to hitch on the teams. There is a freight wagon for barrels, uncapping-box, etc., and a canopy-top four-seated rig much like a stage. Having but one team, I hire a team for a few days to haul one of my wagons. We generally arrive at an out-apiary about 8:30 a. m., three to five miles from home. Each man is ready for duty, and they soon change the scene in the apiary. All are a jolly set; and if one should get a sting he is quiet about it, for fear the other boys may laugh at him. I will call them by number to be better understood.

Nos. 1 and 2 each have a team to care for and drive; so on arrival near the apiary they unhitch and put the teams in the farm-barn near by; then bring to the apiary the extractor that was stored in some dry farm-building.

No. 3 being the smallest boy, brings two pails of spring water, one for drinking and the other for wash-water. No. 4 leads the wagons into the apiary by the side of the bee-house; then puts the barrels, etc., in place in the house. No. 5 lights the smokers, gets fuel in the open box near the house, and each set of tools in place ready. No. 6 puts the cloth roof and siding on the house, and with a couple of nails fastens the board in place with the screen-door attacht with spring hinges. This bee-house has simply four corner posts seven feet above the ground. The sides of the house are each ten feet, with a foot-wide board around the top and bottom. Cheese-cloth two yards wide and 40 feet long forms the entire siding, and a heavy ducking cloth, 10x12, forms the gable roof, which gives plenty of shade in hot days, and sheds water if caught in a shower. Small strips of leather are sewed to the edges of these cloths thru which to drive the wire nails to hold them in place.

All this takes only from five to eight minutes after arrival; then No. 5, with a sharp Bingham knife, will uncap the honey-combs, while No. 6 attends to the extracting, straining, and filling of the barrels holding 360 pounds each. I usually take the place as No. 6, as I can better take that place, and at the same time have a chance to see each hand and give orders. No. 1, with No. 2 as assistant, and No. 3, with No. 4 as assistant, open hives, take out honey-combs, brush off what bees do not run off by two or three strokes of a very *thin* and wide brush-broom, that is made specially for the purpose, at a broom factory, of select, fine stock. Nos. 2 and 4 bring these honey-combs, a set at a time, to the house, and return with a set of extracted ones to fill up and close the hive. The first hive in the morning has to be closed up without upper combs, so as to have combs ready for use in others, and the last set is returned to the first workt colony. To save time and keep out of each other's way, the honey-combs are set just inside of the door of the extracting-house, to the left side of the door, so that No. 5 can get the combs, uncap them over a box made for the purpose, and set them close by the side of the extractor without taking time for one or two steps. No. 6 puts the honey-combs in the extractor, which is a Cowan 4-frame reversible, with ball bearings and lever brake—in short, the best extractor on the market.

The empty combs are set by the right side of the door, and without taking more than one step. The field-boys,



The France Quadruple Chaff-Hive.

Nos. 2 and 4, get rid of their honey-combs, and empty ones for exchange, by simply going to the shop-door. The little time saved in these few steps may seem of little importance, but it saves me daily the cost of one more man.

Every one as busy and happy as the little pets we are working with, time passes so swiftly that it seems but an hour after our arrival when the alarm is sounded from the house—dinner.

We all quit work as soon as possible and not leave hives open. These boys are active and hearty eaters, but even this laborious task is done in order. Nos. 1 and 2 feed the team; No. 3 gets a pail of fresh spring-water; No. 4 takes the baskets of dinner to a shady spot near by; No. 5 spreads the cloth and sets the table—picnic style. No. 6 cuts the loaves of bread and carves the meat. Dinner over, each has a duty in packing up and getting to work. The same is true at the close of the day's work, which comes when the entire apiary of 100 to 150 colonies have been treated.

The light-covered wagon with the boys in arrives at home in time for them to do the few chores common around a farm-house; so they are ready, as the freight-wagon backs up to the warehouse, to roll the barrels in the house, the floor being on a level with the wagon-bed, carefully weigh each barrel, and mark its gross and net weight on the label.

The honey is stored in these barrels until sold, without any other care—except a few dozen cases of 60-pound square cans for farmer trade. If barrels are made of a good quality of staves, kiln-dried and iron-hoopt, the barrels then stored a short time in a dry, airy room, and the hoops driven the day the barrel is filled, they will never leak. That is our experience for the past 20 years; sending barrels thousands of miles, and to nearly every State east of the Rockies. We must use such packages for extracted honey as our markets demand. The next best package is the 60-pound tin can, cased; and where good cooperage can not be had, and at cheap figures, the boxt tin can package is perhaps as good as any. Our home market consumes about 10,000 to 12,000 pounds of extracted honey, and 500 pounds of comb honey per year.

The extracted honey is sold in common tin pails, holding three, five and ten pounds each. We furnish every grocery-store with the honey in these pails; and, to catch some customers that do not want to buy the pails, they are allowed to pay for pail and honey, and when the pail is empty and clean, they can return it to the store and get pay for it, the same as it cost.

Almost all kinds of gummed labels will not stick to new tin cans or pails, but they will stick for all time and not wash off if put on with a *paste* made of demar varnish reduced with alcohol.—Bee-Keepers' Review.

Grant Co., Wis.

What to Do With Unfinisht Sections.

BY S. A. DEACON.

It has often been remarkt in print that "bee-keeping is a business of details." It is all that; and the many little operations to be performed in the economic production of honey, and in fitting it for sale, are considerably eased and expedited by the numerous little dodges and devices which we owe to the skill and inventive genius of members of our fraternity; nor can we have too many of these aids.

The late Mr. Allen Pringle, in his entertaining essay on "Bee-Keepers' Mistakes," said a good deal to discourage us from giving rein to our inventive faculties, asserting that, as a rule, we shall find that we have only been wasting valuable time going over old ground—"digging up that which has been dug up before." But with all due respect to the memory of the author of this doubtfully sage advice, I rather think we should go on delving, and tho we may not strike a bonanza, there is no reason why we should not turn up a valuable little nugget or two that have not hitherto seen the light of day. So much for the preamble; now to the point.

Few questions have been more frequently askt and answered in the columns of this journal than that heading these remarks, viz.: "What shall we do with unfinisht sections?" and somewhat varied have been the replies. Emerson T. Abbott says, "Throw 'em in the sty"—to the little piggy. But I think very few of us can afford to "cast our pearls before swine;" I, for one, can not, and have to exert my ingenuity to fit them for use again. To that end I have just been looking over, and "fettling up," some 2,000 such sections, in readiness for another expected flow. They were a disheartening sight, a hopeless looking lot, nearly all the bottom starters nibbled away, combs all sorts of odd shapes and patterns, like the bits of a child's puzzle-map, and in many cases the sections so stained and dirty that I was more than once inclined to the opinion that Mr. Abbott's advice was about right after all. But "Needs must," says the proverb, "when a certain old gentleman drives," and the necessity for exercising strict economy in our very precarious pursuit, urged me to try what I could do to fit them for another campaign.

In the majority of cases I found it best to boldly whip out the whole comb—after having first leveled them down with a Taylor comb-leveler. Then, with a little tact and economic carving, with here and there a little artistic patching and joining, I got them into shape. The eye soon learns to see where the knife must go, and with a little practice it all goes very quickly. Of course, it takes time and patience; and tho I have no doubt but that many, like Mr. Abbott, will ridicule the idea as entailing a waste of time, there are, on the other hand, many who will find it anything but a tedious or unpleasant occupation during the long winter evenings; and it is a work in which the help of the juniors of both sexes can be enlisted. I find that, unaided, I can get thru about 250 a day; and seeing that in this shape they are almost, if not quite, equal to full sheets of the new drawn foundation, I consider the time and labor expended on them amply repaid.

And now for the *modus operandi:* The only tools required are a small "straight edge" (or a little square piece of ½-inch stuff 4x4 inches), and an old thin-bladed table-knife—if the point be broken off square and this square top sharpened a bit, all the better, for it facilitates cutting out the corners and pop-holes. At the operator's right hand must be placed a lamp on a chair, so that he can easily hold the blade just over the chimney. After holding it so for a second or two, he passes it rapidly between the wood and the comb wherever they are connected, when out falls the latter unharmed. He then passes the empty sections to his assistant, if he has one, who scrapes off the wax still adher ing to them, and places them in the scraping-box—of which more anon. The operator having a pile of combs before him, with the knife occasionally held for a second or two over the lamp, sets to work carving them up as economically as he can. Of course, there will be some waste, lots of odds and ends falling away, and which, together with the scrapings of the sections, will give about three pounds of nice, light colored wax per 1,000 sections thus treated.

Fixing the pieces in the renovated sections goes very rapidly once one gets in the way of it, and it is done thus:

Place the piece of comb in position, and with a piece of section held in the left hand, bear gently and evenly down on it. Having held the knife for two or three seconds over the lamp, slip it smartly in between the piece of comb and section, move it rapidly backwards and forwards, bearing down gently all the time with the bit of section in the left hand, when heigh, presto! it is fixt as firm as a rock. Perhaps the "Daisy" may be made to do it.

To adults who may find the work too "niggling" and tedious, and who, in their want of patience may be apt to deem the game not worth the candle, I would suggest handing the job over to the junior members of the family, especially where there are intelligent. light-handed lassies; reward them at the rate of, say, two cents per dozen, and they will delight in the task. It is better than throwing them in the pig-sty, the opinion of such millionaire (?) members of our fraternity as Mr. E. T. Abbott to the contrary notwithstanding.

The hopelessly dirty sections I discard, and, in some cases fit the combs into quite new ones. But by using what I may term my "Handy Scraping-Box," I manage, and that with very little labor, to restore the dirtiest looking sections to their pristine whiteness, or so nearly so that there is no question about putting them on the hives again. Indeed, the use, or success, of this box has far exceeded my expectations. Its construction is too simple to need much explanation thereof. It is made of stoutish stuff and holds six sections, which are rigidly fixt by means of a follower and a wooden thumb-screw. Where a "screw-box" is not available, a very good iron thumb-screw may be made by beating out flat the head of a big ordinary screw, after having made it white hot; the sharp point must be filed down a bit.

Having placed six sections in the box, and screwed them up, scrape the surface with an ordinary clasp-knife, having a round or dagger-shaped blade; then give them a brisk rub over with No. 1 sandpaper, followed up with No. 0, which restores the original polish. Turn the box over and do the other side. If the sides require it, which they seldom do, do them, too, by altering the position of the sections in the box. I find I can turn them out "like hot-cakes." I have not yet had an opportunity of testing the utility of this simple device for scraping and cleaning up *full* sections, but I fancy it will be found very useful where such are more than ordinarily dirty or stained. The sections being held rigidly they can be scraped, and if requisite, toucht up a bit with No. 1 or No. 0 sandpaper far more vigorously and efficiently, and with less fear of damage than when held loosely in the hand and done one by one. As it costs, so to say, nothing to make it, and there is no patent on it, I would advise every one to try this arrangement, and those who don't like it can simply tack a top and bottom on the box, with a slit in the top, and make a money-box of it—tho I fear in that shape it will be found, nowadays, just about as useless. Well, then, kindle the fire with it, or give it to mother-in-law to keep her cotton-spools in.

South Africa.

Distance Between Center to Center of Frames.

BY G. M. DOOLITTLE.

A CORRESPONDENT writes that he has an apiary of 100 colonies, and thinks of adopting a space of one and 5/16 inches from center to center, as the right frame-space for the future in his apiary, he having formerly used a space of 1½ inches. He asks, "What do you think of the venture?" and wishes me to give my "think" in the matter in the columns of the American Bee Journal.

Well, to be candid, it is a venture I should not want to go into. If I thought I could see some gain in such close spacing I would try it on, say five, or not to exceed ten, of the 100 colonies for a year or two, and then if it pleased me I would fix the remainder in that way.

Here is something that so many lose sight of, and rush headlong into any project which seems good to them, using the *whole* apiary to experiment with, when any feasible looking experiment could be just as well tried with half a dozen colonies as with 100, and if the pet project proved a failure but little loss would result, as against five to ten times as much where the whole apiary is tried, which latter is something hard to be borne, generally resulting in sending the experimenter from the ranks of apiculture with the idea that "bee-keeping does not pay."

I really wish some one competent would tell us, in a logical way, just what there is to be gained in a real, practical dollar-and-cent way, by the close spacing of frames which is recommended every now and then. I have carefully experimented for several years to find out whether I was wrong in sticking to a spacing of 1½ inches from center to center of frames. That is the average, as I have found by measuring many times, which the combs are apart, when built by bees in box-hives where they have their own way in the matter, and so far I see no practical reason for departing to a closer spacing than Nature taught the bees to use.

During early spring a greater space is needed between frames to keep up sufficient heat for brood-rearing than later on when the weather is warm. If there could be artificial heat used so that the hive could be kept warm enough for brood-rearing in any part of it during the spring months, then a closer spacing than 1½ inches might answer; but where the bees are obliged to create a heat sufficient for brood-rearing *inside of the cluster of bees*, and not inside of the hive, then the case is different. To thus create and preserve heat inside of the cluster, the bees must have more space than for a single tier of bees between each range of comb, this single tier being all that can congregate there where the close spacing of one and 5/16 inches is used.

In my experiments I have found that far more brood will be brought to perfection during the cool days of April and May with a 1⅝ spacing than with the spacing proposed by the correspondent; but when we come to July and August weather his spacing will work fully as well as the 1½-inch spacing. If it were not for the fact that one square inch of brood in April and May is worth more than ten times that amount in July and August; and also that, do the best we can, it is hard work to secure the necessary number of bees to work to advantage on the early flow of honey coming from white clover, this close spacing might come into general use. But as it is I can only look on so close a spacing as that proposed by our correspondent as a move in the wrong direction.

TRANSFERRING BEES.

Another correspondent writes that he wishes to transfer some bees from box-hives to movable-frame hives during fruit-bloom, and asks, "Which is the better way to do it? By the old way of cutting combs out and fitting them into frames, or by what is known as the 'Heddon plan?'"

The old plan is the only one I would use at the time of fruit-bloom, and, in fact, it is the way I prefer at any time of the year, unless the colony to be transferred has such crooked combs that it will cost much labor in fitting them into frames. The Heddon plan of transferring, as I understand it, is to drive the bees from their combs, leaving only a few bees to care for the brood, and hiving those driven on frames filled with comb foundation. In 21 days the old hive is driven again, taking *all* the bees this time, these last being hived on frames of foundation, the same as the first "drive." The combs from the old hive, now free from brood and bees, are to be rendered into wax. But, if I am correct, Mr. Heddon never advised this way of transferring where the same was to be done in early spring or in fruit-bloom, before the hives were filled with bees and brood.

With me, the time of fruit-bloom is just the time for the bees to get under good headway rearing brood, and making a general preparation for the main honey harvest from white clover and basswood; and should we transfer by the Heddon plan at this time, we would break up all of these plans of the bees just at a time when we wish every egg possible laid by the queen, so the bees from them can come on the stage of action when the honey harvest is on. Hence, by using the Heddon plan at this time of the year, we would so shorten our "crop" of bees that it might make all the difference between a good crop of honey and no surplus at all. One hundred and twenty-five dollars would not tempt me to allow any person to transfer 25 colonies of bees for me in such a way in fruit-bloom; as I should calculate that I would lose that much or more by so doing in an average season.

Then, the Heddon plan involves the melting up of all combs in the old hive, which is a thing I object to. I never could understand the logic which calls for the destroying of good, straight worker-combs for the sake of making the wax which comes from them into foundation, fitting the same into frames, obliging the bees to draw it out, and add more wax to it in the process, that we might have only good, straight worker-combs again. If any wish to go thru this process, of course I have no objections; but I want them to understand what they are doing before they start in the matter, and not do it ignorantly, because some one recommended the plan without giving the whole logical outcome of the matter.

Fruit-bloom is a good time to transfer bees by the old way; in fact, so transferring at that time, where their own combs are fitted into frames, seems to give the bees renewed vigor, so that the colonies become better fitted for gathering surplus honey than do those of the same strength that are left undisturbed. In case any colony has very crooked combs I should leave them until just after the honey harvest, when it would be well to use the Heddon plan, feeding if necessary to prepare them properly for winter. Or, if the old hive is not suited for obtaining surplus honey from it, this transferring could be done at the commencement of the harvest, when, by using the Heddon plan of preventing after-swarms, the first "drive" might store some surplus honey. Onondaga Co., N. Y.

THE AFTERTHOUGHT

The "Old Reliable" seen thru New and Unreliable Glasses.
By E. E. HASTY, Richards, Ohio.

BEE-STOMACHS—HONEY VS. SUGAR FOR INVALIDS.

An apparent slip occurs in the able article of Prof. Cook, page 370, where he says that the true stomach of the bee is larger than the honey-stomach. Very likely this is the visible appearance, when both are empty; but the fact that the latter when full is more than half the weight of an unloaded bee, rather makes it impossible that the former should have the greater capacity.

Say, Prof. Cook, I'm getting weak in the faith about honey being *practically* better food for invalids than granulated sugar. After a long period of valetudinarianism, intentionally consuming much sweet, and with my prejudice (if I had any prejudice) in favor of honey, you will see me eating sugar as a horse eats oats, and not much honey. Sad case of backsliding, isn't it? And Gleanings in Bee-Culture, not very long ago, holding me up to the world as its champion honey-eater!

LOCUST BLOOM AND TREE.

That spray of locust bloom, page 369, is very lifelike. One disadvantage of the locust that Mr. Schmidt left out is its creeping roots, which infest sandy soil somewhat in the style of an arboreal Canada thistle.

SALTING BEES.

The man who lets cattle get at his home-apiary till they find out that salt can be had by licking at the hive-entrances—I rather guess he's a gone case, as a bee-keeper, and that we need not waste sympathy on his woes. Possibly in some out-apiaries the matter may stand somewhat differently. Somebody else's hired men may have to be depended upon to shut the gaps they open. Better omit salt in such situations—and perhaps Editor Root is too pennywise in objecting to the cost of sulphate of copper for them. A barrel of salt to serve 400 colonies for two years—a quarter of a cent per colony per year is "too awfully cheap." Page 376.

HAULING HOME EXTRACTING-COMBS OF HONEY.

Aikin's new style of hauling the combs of honey home from the out-apiary before extracting seems to have just one drawback—needs 300 extra combs to work it. The full double set of combs are supposed to be sufficiently hard to get—and keep—without these extras. Where there's a will there's a way, however. His Ku-klux horse with canvass all over him, head and ears—well, if the horse doesn't object to it the rest of us needn't. May perhaps be the best way to deal with a serious difficulty. Page 377.

A NON-SWARMING METHOD.

The Blakely non-swarming method seems to be a practical one—don't tell us to use a great lot of combs of brood without bees "wherever they are needed," as I was getting ready to hear as I read it. The objection is that the extracted-honey part of the business is boomed, and the section-honey part deprest. With good runs of honey at the right time it might prove quite satisfactory. Page 381.

CLEANING BEESWAX OFF TIN.

A jet of hot steam for cleaning the beeswax off bright tin is probably an excellent idea—except for the large section of us who haven't got the jet of steam. My working idea, in this regard, is to devote certain tin utensils to use in beeswax *and absolutely nothing else*, and then let the films of wax remain on. Keep 'em bottom up when not in use, to avoid adhering dust. Page 381.

THE MIDDLE SECTIONS IN A SUPER.

The question is raised, page 382, whether sections stored directly over the middle of the brood do not incline to have a more sodden appearance than those at the edges. Worth wrestling with. I'll guess off hand that it's mainly accident. They don't store at all at the far edges excepting when the honey-flow is quite good; and a good flow favors fine appearance.

AVERAGE AGE OF QUEEN-MATING.

Thirty German queens mated at an average age of six days. The range was from four days to nine. The result with a lot of American queens nearly the same—average a little older. We should refresh our memories with these fundamental facts once in awhile. And let's see, I believe we are taught that the time between mating and commencing to lay is very short, so that the total time from emerging to laying is usually a little over a week, but sometimes less. Page 382.

THOSE TWO "WEST"-ERN WOMEN.

And what have we here, page 385? Mrs. West, and a daughter bigger than herself, and the plump statement underneath that Mrs. W. does all the work. Guess that's a slip of some sort—notwithstanding that our observations in this lazy, butterfly world prepare us to believe just that. Too honest and resolute a look on the younger woman's face—and printed on her costume. The ladies have a beautiful spot. They believe in porticos (which more than half of us have discarded.) And they manifestly believe in having things snug. None of your spread-all-round-for-a-mile tactics in their lemonade.

TOO SCIENTIFIC TERMS IN QUEEN-REARING.

Glad Doolittle didn't stop with saying the bulk of a B shot in royal jelly for cells. Some of us, like myself, don't know "B" from "bull's foot" in the terms of a sport which we care not a fig for. But four turnip seeds, ah, that's coming to terms of precision! And the jelly, it seems, is to be well shaken before being taken—careful there not to break the bottle! Seal up the natural cell yourself (with no queen in it), and keep the jelly for use for two weeks if you need. None but the experienced hand could have told us that. Hardly expected Doolittle to aver so decidedly the uselessness of meal and flour as pollen substitutes—but I have no protests to put in. Page 386.

THE APPLE AND EVOLUTION.

Mr. Jolley is a little extreme in his evolution teachings, page 386. We can hardly depend upon seedlings from cross-fertilized seed bearing fruit "in all probability" better than the parents. "Occasionally" is all that can be truthfully said there. And about the apple being developt from the wild rose, I guess none of the great masters of evolution would quite consent to back him there. If we can stand the evolutionary millions of years, it comes to this, that the apple and the rose were both developt from a common parent (not now in existence at all), not that the apple was developt from the rose, or the rose from the apple. Better say the apple sprang from one or more of the crabs of the eastern continent—and not try to unwind the evolutionary ball any further than that.

BROOD-CHAMBERS FOR EXTRACTING AND FOR SECTIONS.

And so Aikin thinks a hive for extracting should have a larger brood-chamber than if run for section honey. May be he's right; but somehow it doesn't hit me yet, at least does not hit me *effectively*. I use about the same chamber for both, and *intend* to put heavy combs enough below in the fall to make wintering safe. But, then, my field excels in late fall flows. It does look as if the handling of half-stories, which Mr. A. tells of, was excellent for an out-apiary where swarming must be fought to the utmost. Page 387.

BEE-PARALYSIS—"SWEET-CLOVERING" WORN-OUT LAND.

Adrian Getaz is of interest on the subject of paralysis, page 389. Camphor checking it, but also giving flavor to the surplus, and as one has to keep intermitting his remedy. Especially noteworthy is his opinion that old queens will eventually get to lay infected eggs, to the utter ruin of the colony. Of course, the natural remedy in that case would be to keep the colonies supplied with young queens. If guesses were allowable in such serious investigation I should guess that *some* young queens would get their ovaries affected, and that some old ones would escape. However, "All young queens" is not a bad motto, even where paralysis does not prevail.

His scheme of buying worn-out land for a trifle, getting it set in sweet clover, and then selling it at a rise looks fascinating. But there used to be a fable the moral of which began—

"All ye who would your trades forsake,
Take warning from my sad mistake."

No doubt the buying of the land would go merrily.

WINTER EXTRACTING OF HONEY.

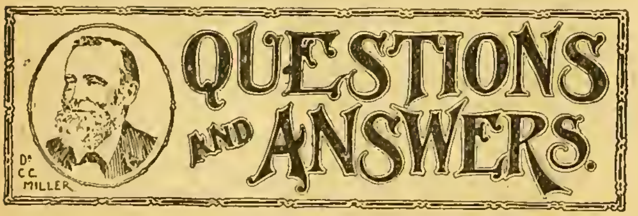
H. D. Burrell sounds rather extreme on winter extracting 90 degrees of temperature for 48 hours; but may be it's practical. Page 390.

ACTION AND NON-ACTION OF STUNG ANIMALS.

We seem likely to find in the end that animals of various kinds, under very severe stinging, will sometimes run violently, and sometimes refuse to stir at all. Page 395.

CEMENT-COATING WIRE-NAILS.

Some will be quite glad to know that they can cement-coat their own wire-nails by such a simple process as that on page 398—just a snuff of finely powdered rosin sprinkled on them when they are hot enough to begin to look blue.



CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Sweet Clover as Hog Pasture—Salting Bees.

1. What do you know about sweet clover for hog pasture? I note what Mr. Boardman says about it in "A B C of Bee-Culture."

2. I have two watering devices for bees as prescribed in "A B C of Bee-Culture." These are kept supplied with fresh water, and each morning I sprinkle salt over the boards. The bees are there thick. Is there any danger of overdoing the salting? IOWA JOE.

ANSWERS.—1. I have no personal knowledge as to the value of sweet clover as hog-pasture, and will cheerfully yield the floor to any one who has. I suspect, however, that it may be a matter somewhat of training with hogs, as it is with horses and cattle. There are places where I've seen sweet clover growing along the roadside unmolested, while stock had eaten down all the grass about it. Yesterday I saw some places of that kind in a drive of 5 miles, but I saw more places where cows had eaten the sweet clover close to the ground. One fact about sweet clover I do not remember to have seen mentioned often. It is that stock seem to learn to eat the *dry* sweet clover hay more readily than the green plant. My horses eat the green plant very sparingly, but will come at call out of green pasture and munch down the dry hay greedily. Possibly if conditions were reverst, and plenty of sweet clover were growing in their pasture instead of almost none, they might show a different preference. About a ton of pure, sweet, clover hay was put into my barn this summer, and most of it is gone already. I wish I could have the mow filled with it.

2. It is not likely that you can get bees to take more salt than is good for them.

Questions on Swarming.

I had a swarm of bees July 5, and hived it all right, and the next day (July 6) I had another from the same hive. Is that a simple occurrence, or something extraordinary? Both swarms had a queen, and another was left in the cell in the hive. ILLINOIS.

ANSWER.—In the great majority of cases, the first after-swarm will not issue till more than a week after the prime swarm. Then the after-swarms, if more than one, will follow in quick succession. In your case the two swarms were practically after-swarms, altho there may have been no prime swarm. About June 27 was the time for the prime swarm, and it may have issued and the queen was lost, or something may have happened to the queen at the time the prime swarm issued, and the swarm may have returned. Or, there may have been no preparation for swarming at all, and by some means the old queen was killed. In that case there would be several queens reared, and if everything were favorable for swarming you would have just what happened in your case.

Wants Queen-Rearing Directions Explained.

On page 408 is an editorial beginning with heavy type, "Say what you mean." If Mr. Pridgen had done this in all parts of his prize article on queen-rearing publisht in the same number, so that a novice could get clearly his intended meaning, it would not have been necessary to have troubled you to make one particularly obscure passage clear. I have read it, and re-read it, perhaps 25 times, hoping it would clear up, but it is still Greek. The passage I refer to is on page 403, viz:

"If one is making a business of queen-rearing he should keep a colony at work as cell-starters [Is this colony to be queenless?] Fill a body [hive I suppose] with combs of brood [any bees? or a queen?] and place it *over* [Italics mine] the colony selected [for cell-starting, I presume] with an excluder between. [Where is the queen which is to be excluded, above or below?] Twelve days later [why 12 days?] place this body on a bottom-board [which body, the top or bottom one?] minus the most of the board, with wire cloth tackt on as a ventilator. [That's certainly lucid enough.] Stop the entrance so that no bees can escape." [What becomes of the excluder, which was below this body, when it was on top of the other? Neither are any directions given for the disposal of the other body!]

I will thank you to rewrite the above paragraph, if it will not be regarded as a breach of etiquette on the part of the Bee Journal, which I presume is under obligations of courtesy to the author for the privilege of publishing the article referred to.

In conclusion, I beg to say that it is the plain duty of those who, being familiar with a subject, and undertaking to enlighten the reading public by publishing treatises, should gravely weigh every item of the subject-matter, eliminate all obscurities, and make it so plain to the wayfaring man that he might go and do the thing taught.
APIS MELLIFICA.

ANSWER.—It is no breach of etiquette whatever to try to make clear anything not fully understood in the columns of this journal, and Mr. Pridgen would be one of the last to find fault with anything of the kind. He has shown a very commendable inclination to make known to others the things he has learned no doubt after much hard thinking and experimenting, and has made no light contribution toward progress in queen-rearing. It should be remembered, however, that it is much easier to find fault than to give the remedy, and many a one who might find some cloudiness about Mr. Pridgen's instructions might not be able to write with greater clearness. It should also be remembered that Mr. Pridgen is an expert in the line of queen-rearing, and the matters about which he writes are all ABC to him, on which account he may not go into minutiæ sometimes as much as might be desired by the rest of us who do not know so much about queen-rearing. Mr. Pridgen should not be held accountable, probably, for what is most likely a printer's error in a passage you mention, "minus most of the board." That "board" should read "brood."

Answering your questions, I understand Mr. Pridgen to say that a colony is to be selected from which bees are to be taken to act as starters of cells. Put an excluder over the hive containing this colony, and on this excluder put a hive body. Fill this hive body with combs of brood obtained from other colonies. No queen is to be given to this upper story, and no bees need be given, for the bees will come up from the lower story thru the excluder to care for the brood. I do not know for certain why Mr. Pridgen would leave matters in this condition for 12 days, but can imagine two reasons—one, that there may be no unsealed brood from which to rear queens; another, that a force of bees may have time to hatch out. It is quite possible he may have some different reason, and we'll be glad to have him tell us.

The queen remains all the time in her own hive. At the end of 12 days the upper story is taken from over the excluder, still leaving the queen in the lower story, and the upper story with its now queenless bees is placed in any convenient place on a bottom-board with wire-cloth tackt on as a ventilator, so that no bees can escape and yet the bees have abundance of air. This may be accomplisht by having a very deep bottom-board with the entrance closed with wire-cloth, or a frame the size of the bottom of the hive may be entirely covered with wire-cloth, and the hive placed thereon, hive and wire-cloth both being raised by means of a block under each corner.

No directions are given for the disposal of the other body in which is the queen, nor of the excluder over it, for nothing is to be done with them. They are left on their own stand where they were at the beginning.

The substance of the whole story is that this removed upper story contains a lot of bees shut up with no queen, and with nothing from which to rear one, and just crazy for the cells you will give them.

Perhaps Superseding the Queens.

I have two colonies of bees each of which has a young laying queen. Their first brood is just capt over—good worker-brood. Now they both have started queen-cells with larvæ already in them. What causes that? They are not very strong yet. They have each 3 or 4 frames of eggs, larvæ and sealed brood. One of the queens seems very prolific. ILLINOIS.

ANSWERS.—I don't know, but I suspect the bees are trying to supersede their queen. Those who do not clip their queens are hardly aware how often a queen is superseded when only a few weeks, and sometimes only a few days, old. The queens seem all right, appear to lay well and all that, but for some reason the bees are not satisfied with them, and supersede them. If they are thwarted by having the cells torn down, the queens are likely to fail rather suddenly, and it looks as if the bees could forsee their coming failure.

Brood-Frame Cover—Absconding Swarm.

1. What is the proper material to cover brood-frames to keep bees from going into the super when there are no sections on?

2. I hived a swarm in a new dovetailed hive, and set it in the shade of an apple-tree, but had the brood-frames covered with a new table oil-cloth; but after they were in the hive a few hours they all went out and left. I had arrived just as the last bees were coming out of the hive, and I tried to make them cluster, but they would not stop. I tried to stop them with a spray pump, by spraying water on them. Why did they leave the new hive? MICH.

ANSWERS.—1. The proper way is to have no supers on when you don't want the bees to enter them. Don't think of having a super of sections on with something to prevent bees getting into them. Put it down as a fixt rule that sections are never to be put on except during a flow of honey, or just before one is expected. Possibly you may refer to having a super on a hive without any sections in it, the super being filled with planer-shavings, leaves, or something of the sort for winter. In that case it is desirable to have some covering over the brood-frames so the bees cannot get up into the packing. Probably nothing is better for the purpose than burlap, altho cotton-cloth or almost any kind of cloth will answer.

2. That "new table oil-cloth" was no doubt somewhat to blame. Oil-cloth, when new, has an objectionable smell, and bees are fastidious in that respect. You might put it over an establisht colony, and they would stay all right, because unwilling to desert their brood and stores, but when first hived they have not sufficient inducement to stay in an objectionable place. Even if there were no smell about the oil-cloth it is not a good thing to put over a newly-hived swarm. It is too close and warm. One of the things of most importance to look after in the case of a newly-hived swarm is to see that they have *unlimited* ventilation. Raise the hive on blocks, and for at least the first day or two leave the cover partly off or partly raised. Hardly any danger of leaving the hive too open for the first two or three days.

Diagnosing Pickled and Black Brood.—I never have any difficulty in diagnosing a sample of real *foul* brood. The symptoms of that disease are so markt that it is very easy for one who is at all acquainted with its characteristics to determine whether or not it is a case of *Bacillus alvei* (foul brood); but to decide between a case of black and pickled brood is not so easy, for the two look very much alike, and under some conditions they *are* alike so far as external appearances are concerned. Knowing that a good many bee-keepers had sent samples of diseased brood to Dr. Howard, I felt that we could hardly ask him to make such diagnoses without compensation, for he is not in any way connected with an experiment station or any government work; and a man of his attainments as a bacteriologist ought not to be askt to perform a difficult service of this kind, requiring years of preparation and study, for nothing. As yet, I know of no one in this country who has been able to discriminate between one and the other absolutely. Black brood, as we know, is decidedly contagious—perhaps more so than foul brood, and quite as destructive. Pickled brood is a mild form of disease; but so far as I know it is not very destructive. Very often it will disappear of itself, and in any event a mild treatment will eradicate it entirely.

We will suppose that a bee-keeper discovers something in one of his colonies that looks suspicious to say the least. If he can know absolutely, by sending a sample to some competent expert, that he has neither black brood nor foul brood, this knowledge may be worth to him hundreds and possibly thousands of dollars.

Very recently a queen-breeder, who has some 500 nuclei, and who is carrying on the business of queen-rearing very extensively, sent a sample of diseased brood, desiring us to wire him at once what it was. The sample came duly to hand, and I immediately wired back, "Not foul brood—possibly black or pickled brood." At the time of sending a sample to me he sent one to Dr. Howard also, and the latter very promptly wired him that it was nothing worse than pickled brood. This information was worth to him hundreds of dollars; otherwise he would have withdrawn his advertising, broken up his nuclei, practically throwing away a splendid trade in queens, at the same time ruining his business perhaps for all time to come. He had only one case in his yard, and that was promptly disposed of.

While we are perfectly willing to perform such services so far as we are able, Dr. Howard can not afford to do them for the mere love of the pursuit. I wrote him, asking him what it would be worth to diagnose diseased samples of brood, and he replied that he thought he could afford to do it for $2.00; and this I regard as very reasonable, considering that he may have to spend hours with the microscope; so I would suggest that doubtful samples be sent to Dr. W. R. Howard, Fort Worth, Tex., with a letter of explanation, and don't forget to send the money.

In a letter recently received from Dr. Howard, he gives specific directions by which every bee-keeper can diagnose to some extent for himself. Of the three particular brood diseases he gives the following diagnostic signs:

FOUL BROOD.

GLUE-LIKE consistence of the mass, and the offensive smell.

BLACK BROOD.

JELLY-LIKE consistence of the mass, the absence of ropiness noticed in foul brood, and the peculiar sour-like smell.

PICKLED BROOD.

ALWAYS WATERY, turning black after being attackt with the mucor fungus—a black mold—and by placing the larvæ in a sterilized chamber, keeping warm and dark, in three or four days the white fungus of pickled brood appears. I nearly always place a few larvæ of every specimen of all kinds of dead brood. Foul brood and black brood are attackt with a fungus, tho kept for months. WM. R. HOWARD.

—Gleanings in Bee-Culture.

AMERICAN BEE JOURNAL
ESTABLISHT IN 1861 OLDEST BEE-PAPER IN AMERICA
DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS

PUBLISHT WEEKLY BY
GEORGE W. YORK & COMPANY,
118 Michigan Street, Chicago, Ill.

[Entered at the Post-Office at Chicago as Second-Class Mail-Matter.]

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IMPORTANT NOTICES:

The Subscription Price of this journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "Dec00" on your label shows that it is paid to the end of December, 1900.

Subscription Receipts.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows you that the money has been received and duly credited.

Advertising Rates will be given upon application.

VOL. 40. JULY 26, 1900. NO. 30

EDITORIAL COMMENTS

NOTE—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England: — Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

Why a Bee-Keepers' Exchange?—Prof. Cook seems insistent that every bee-keeper should be a member of something like a Bee-Keepers' Exchange. What need? Bee-keepers have heretofore gotten along without anything of the kind, and they can get along now. Their attention has been chiefly given to the best means of securing a crop of honey, and that can be done without any such thing as an Exchange. A man can produce just as much honey, whether he is to get 5 or 15 cents a pound for it. He can produce the same amount if he has no market quotations, and takes his snow-white section honey to the grocery and gets for it just the same price as the grocer paid for some dirty black stuff not fit to put on the table.

And yet no intelligent bee-keeper would be satisfied not to inform himself as fully as possible, so as to get something like a fair price for his product. He watches the bee-papers to see whether the crop is large or small, to see what the prices are in the market reports, informs himself as to his own particular locality, and makes some effort to get the most he can for his honey. If it be admitted that he is right in doing this, it is hard to stop short of the logical conclusion that a bee-keepers' exchange is something almost in the line of a necessity.

When a man, who has shown himself for so many years unselfishly interested in the advancement of bee-keepers' interests as has Prof. Cook, urges any measure for the general good, it is well to give heed. The illustrations he gives in the line of fruit-growers are strong, especially that of the raisin-growers, with an increase of a million dollars that seems to be credited to the account of co-operation. A significant fact is that the 75 percent that entered the movement at its beginning increast to 90 percent after trial.

It would not be amiss to quote what has been already done by organization on the part of bee-keepers. A pitifully small percent of the bee-keepers of the country banded together for a few years, mainly with the idea of resisting the invasion of their rights as to location, yet that small band has made it safe for every bee-keeper in the country to locate where he pleases, with no fear that some crotchety neighbor may have an ordinance past telling him to "move on."

Adulterators of honey have boldly flaunted their wares in the faces of honest bee-keepers all over the land, and the first show of weakening on their part has come from the organized effort of a comparatively small number of men acting as one body.

If Exchanges are good for others, why not for bee-keepers? If bee-keepers combined have secured advantages against invaders of their rights, and against adulterators, why may not combination be a good thing for them in the way of buying and selling? At any rate, the question is a live one, and these columns are open for its full and free discussion. Objections and advantages will be equally welcomed.

Queen-Excluders When Working for Extracted Honey are in common use, the reason given for their use generally being that the queen is prevented from going up to lay in the extracting-combs. J. B. Hall, the Canadian veteran, gives in the Canadian Bee Journal another as his chief reason. By having an excluder between the brood-chamber and the extracting-super he is never in any anxiety for fear the queen will be injured, and can thus work much more rapidly. A few workers may be killed as the result of rapid handling, and it matters little, but it would matter a good deal if hasty setting a super on should mash a queen. If an excluder is on, there is no queen to be considered; she is safe below the excluder.

An Improvement in Queen-Cages that seems to have originated in Medina or vicinity, seems likely to be of real service. As sent out heretofore, the Benton shipping-cage has at one end a cork closing a hole that leads thru the candy to the queen. The cork is pulled out, and as soon as the candy is eaten out the queen is liberated. The longer the journey the more candy eaten out by the attendant bees in the cage, and if a very small portion is left the introduction may be too sudden for best results. By the new plan no cork is used. Instead thereof a bit of pasteboard is nailed over the hole, three or four small perforations being in the pasteboard. The candy comes close up against the pasteboard, and the bees must gnaw away the pasteboard before they can eat the candy. This avoids the possibility of too sudden introduction, assuring greater safety in every case. When a customer receives a queen, there is no cork to withdraw; all he has to do is to pry off the cover and put the cage in the hive. The bees do the rest.

Some Things Proved.—Mrs. A. J. Barber, of Montezuma Co., Colo., has this to say, in Gleanings in Bee-Culture, about the things she has proven at least to her own satisfaction:

> Since the beginning of the new year I have been looking back over the nine years that I have been with the bees, and taking stock, so to speak, of the points that I have proved to my own satisfaction. I have been in the bee-

business, first, because it was necessary that I should have some money-making business that I could attend to while caring for my home and family; and, second, because I loved the work, and felt sure that I could do better in it than anything else that would not require more capital to begin with.

In the nine years I have never had a failure. Last year was a short crop. There was a long drouth, and water failed for irrigation. We had not quite 9,000 pounds of both comb and extracted honey from 130 colonies spring count.

Now, the points that I have proved to myself are these:

That careful, patient work and management are essential to success.

That comb and extracted honey can be produced with profit from the same apiary at the same time.

That the wax and vinegar may be made to pay the cash expenses of such an apiary.

That with the exercise of a little ingenuity and forethought two apiaries of from 150 to 200 colonies of bees can be managed by a woman and a little boy, with but very little other help except in hive-making or nailing up fixtures.

That one who makes a business of bee-keeping should take all the best bee-papers, and keep up with the times.

That the person who depends upon luck generally has bad luck.

I have proved, in an experience of six years as inspector of bees for this county that the treatment of foul brood can not be made too thoro, and that the best use to make of honey from infected colonies is to burn it or bury it very deeply.

I have also settled the hive question, for myself at least. The 8-frame dovetailed is my choice.

Stingless Bees are of several kinds, all small, and too tender for anything but a warm climate. The small amount of honey they produce, and that of poor quality, makes it doubtful that they will ever have commercial value, but the following description of the nest of *Melipona togoensis*, from the British Bee Journal, may be of some interest:

> The nest was in a hollow branch of a tree. It consisted of three parts (1) the nest proper, with the brood-combs; (2) the pollen and honey-pots; and (3) the entrance-hole and passage. The nest proper was 24 cm. long. In shape and structure it was apparently very similar to an ordinary wasp's nest, for there were twelve horizontal slabs of comb, of which the middle one was the largest, and the cells were constructed on one side only of the comb. The combs were connected to one another by pillar-like supports, the whole being encircled by a paper covering. The material was not, however, the familiar grey "papier mache" of the wasp, but a dark brown kind of wax. The cells were circular or irregularly hexagonal, not regularly hexagonal as in the comb of the honey-bee.
>
> The honey-pots, which occurred in a separate part of the nest, were egg-shaped, and of a much larger size than the brood-cells. They were used for the storage of honey and pollen.

Stimulative Feeding is practiced by W. O. Victor, as told in Gleanings in Bee-Culture, not to furnish directly bees for the harvest, but to furnish the bees that may rear the bees for the harvest. So he feeds six or seven weeks in advance of the expected flow. Of course, it must be remembered that experience and care is necessary that stimulative feeding may not work the wrong way.

For Smoker-Fuel cotton waste is highly recommended in Gleanings in Bee-Culture. Not dry cotton, but that which is soakt in oil and is thrown away along railroad tracks after having been used as grease for the wheels. Mr. L. Highbarger, of Ogle Co., Ill., is the discoverer of this new smoker-fuel which is said to light easily, makes a good smoke, and lasts well.

Weed Comb Foundation, according to F. L. Thompson, in the Progressive Bee-Keeper, is more brittle than other foundation. Unless made very warm, it crumbles in cutting, thus wasting. A pound of it made full sheets and bottom starters for 118 sections.

The Weekly Budget

Dr. A. B. Mason, writing us July 14th, reported that he was getting very little surplus honey so far this year. He also refers to a very pleasant visit from Mr. C. P. Dadant and his daughter who were on their way to Paris. He says: "We had a good visit, and we got acquainted with a very nice young lady."

* * * * *

Mr. E. E. Hasty—our inimitable "afterthinker"—writing from Lucas Co., Ohio, July 18, says:

"The season now is largely spent, and not much to show for it in the way of honey; but in the 20 years I have run this apiary there always has been some surplus (location rather strong on late flows, and weak on early ones), so I'll just cheerfully hope I'll have some honey yet."

* * * * *

Mr. H. D. Cutting, an ex-president of the National Bee-Keepers' Association, expects to be at the Chicago convention next month. Mr. Cutting has been partially blind for several years. We can assure him of a hearty welcome and a good time generally. Mr. Cutting had charge of the Michigan apiarian exhibit at the World's Fair, and so was in Chicago several months during 1893. All will be glad to see Mr. Cutting at the annual convention once more.

* * * * *

Mr. G. M. Doolittle, of Onondaga Co., N. Y., wrote us July 17:

"There has been positively no honey here since apple-bloom, and I am feeding bees. This makes queen-rearing up hill work. I do not expect to be at the Chicago convention next month."

Surely, Mr. Doolittle sends a discouraging report. And there will be a big hole in the Chicago convention if he is not there.

* * * * *

Queen Victoria, as everybody knows, has, for the first time in 40 years, made a trip over to Ireland. In commemoration of the event a box of one dozen sections of honey from the four provinces of Ireland was presented to her Majesty. The box containing the honey was specially made of Irish bog oak, by the Abbott Bros., with glass sides, and bore on the lid the letters V. R. in a silver shamrock pattern. It is a pity there has not been a little more mutual exchange of honey between those two nations during the last century. By the way, the Queen is just 81 as this is written. Her reign has now extened over a period of 63 years, exceeding by three years that of any other English monarch. Every fourth person in the world is one of her subjects.—Gleanings in Bee-Culture.

* * * * *

The Year Book for 1899 is a cloth-bound volume of 880 pages, 6x9 inches, issued by the Department of Agriculture at Washington, D. C. The law under which the Year Book is publisht says that it shall contain reports of bureaus and divisions of the Department of Agriculture, and such papers by experts, and such statistics and illustrations as the Secretary of Agriculture shall believe to be specially suited to interest and instruct the farmers of the country, and include a general report of the work of the department. Also, that there shall be printed 110,000 copies for the use of the Senate, 360,000 copies for the use of the House of Representatives, and 30,000 copies for the use of the Department of Agriculture, all for free distribution, postage paid, among the farmers, the only class specially interested. Each intelligent farmer who desires a copy of this very valuable book should write to his Representative in Congress, or to his Senator if he fails with the former. Each Representative has 1,000 books to distribute, and each Senator about 1,200. Send for a copy of it. It is the best "something for nothing" investment for the farmer that we know of.

The National Convention Next Month—don't forget it. The dates are Aug. 28, 29 and 30. The place—Chicago.

The Chicago Convention of the National Bee-Keepers' Association meets the last week in August, as will be noted by the following from Secretary Mason :

EDITOR OF AMERICAN BEE JOURNAL :—

Please allow me to remind the readers of the American Bee Journal that the next convention of the National Bee-Keepers' Association is to be held in Chicago, Ill., on the 28th, 29th and 30th of August next, commencing Tuesday evening, the 28th, at 7:30 o'clock.

The sessions will be held in Wellington Hall, No. 70 North Clark St., about a block and a half from the Bee Journal office, and about five blocks directly north of the Court House. The hotel at which members can secure lodging, etc., is the Revere House, southeast corner of Clark and Michigan St., only one-half block from the hall. Rates of lodging will be 50 cents per night, and several will have to occupy one room. To many bee-keepers this will be an "added attraction," especially as they will have good beds to sleep on, as Mr. York has been assured by the hotel proprietor. It may be possible that this hotel will not be able to accommodate all of the bee-keepers, altho the proprietor will do his best to see that it does. Each one attending the convention should secure a lodging-place as soon as possible after arriving in the city. There is usually no trouble in getting enough to eat at reasonable rates.

The program for the convention will be different from what it has usually been. There will not be to exceed one paper at each session, and the remainder of the time will be occupied in the asking, answering, and discussion of questions. The question-box will be in charge of such veterans as Dr. C. C. Miller, of Illinois ; Rev. E. T. Abbott, of Missouri ; D. W. Heise, of Ontario, Canada ; C. P. Dadant, of Illinois ; R. L. Taylor, of Michigan ; O. O. Poppleton, of Florida ; and the editor of the American Bee Journal.

On Wednesday evening the editor of Gleanings in Bee-Culture will give an "Illustrated stereopticon talk on bee-keepers I have met, and apiaries I have visited."

The papers will be from such noted ones as Thos. Wm. Cowan, of London, England ; Dr. Wm. R. Howard, of Texas ; Mrs. H. G. Acklin, of Minnesota ; S. A. Niver, of New York ; Herman F. Moore, of Illinois ; and R. C. Aikin, of Colorado ; and if you want to know what the papers are about, and assist in the discussion and enjoyment of the questions, please report in person at the above mentioned hall at the time indicated.

I have been unable as yet to learn what the railroad rates will be, but they probably will be as heretofore—one fare for the round trip from some localities, one and one-third from others, or a cent a mile each way in the Central Passenger Association territory. The exact rate may be learned by inquiring at any railroad station.

A. B. MASON, *Sec.*

York's Honey Calendar for 1900 is a 16-page pamphlet especially gotten up to create a demand for honey among should-be consumers. The forepart was written by Dr. C. C. Miller, and is devoted to general information concerning honey. The latter part consists of recipes for use in cooking and as a medicine. It will be found to be a very effective helper in working up a home market for honey. We furnish them, postpaid, at these prices: A sample free ; 25 copies for 30 cents ; 50 for 50 cents ; 100 for 90 cents ; 250 for $2.00 ; 500 for $3.50. For 25 cents extra we will print your name and address on the front page, when ordering 100 or more copies at these prices.

◆

Belgian Hare Breeding is the title of a pamphlet just publisht, containing 10 chapters on "Breeding the Belgian Hare." Price, 25 cents, postpaid. It covers the subjects of Breeding, Feeding, Houses and Hutches, Diseases, Methods of Serving for the Table, etc. It is a practical and helpful treatise for the amateur breeder. (See Prof. Cook's article on page 292.) For sale at the office of the American Bee Journal. For $1.10 we will send the Bee Journal for a year and the 32-page pamphlet on "Belgian Hare Breeding."

◆

"**The Hum of the Bees** in the Apple-Tree Bloom" is the name of the finest bee-keeper's song—words by Hon. Eugene Secor and music by Dr. C. C. Miller. This is thought by some to be the best bee-song yet written by Mr. Secor and Dr. Miller. It is, indeed, a "hummer." We can furnish a single copy of it postpaid, for 10 cents, or 3 copies for 25 cents. Or, we will mail a half-dozen copies of it for sending us *one new* yearly subscription to the American Bee Journal at $1.00.

◆

Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Upon receipt of $1.00 for your Bee Journal subscription *a full year in advance*, we will mail you a Wood Binder free—if you will mention it.

◆

The American Fruit and Vegetable Journal is just what its name indicates. Tells all about growing fruits and vegetables. It is a fine monthly, at 50 cents a year. We can mail you a free sample copy of it, if you ask for it. We club it with the American Bee Journal—both papers one year for $1.10.

◆

The Premiums offered this week are well worth working for. Look at them.

Belgian Hares

Pedigreed and Unpedigreed Hares, any age, for sale.

J. S. MESSICK,
LIBERTY, - MISSOURI.
29A4t Please mention the Bee Journal.

M. H. HUNT & SON,
SELL ROOT'S GOODS AT ROOT'S PRICES.
Our inducements are first-class goods, cheap freight rates, and prompt shipments. Send for catalog. BELL BRANCH, MICH.

Albino Queens by return mail. Untested, 75 cts.; warranted, $1.00; tested, $1.25.
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Steel Wheels
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BUY A SET TO FIT YOUR NEW OR OLD WAGON
CHEAPEST AND BEST
way to get a low wagon. Any size wheel, any width tire. Catal. FREE.
Electric Wheel Co., Box 16 Quincy, Ills
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GENERAL ITEMS

Exceptionally Good Season.

The season has been exceptionally good here so far, and it has kept me busy to keep my 265 colonies supplied with surplus room, with the help of one man.

ERWIN WILLIAMS.

Otero Co., Colo., July 12.

Catnip as a Honey-Plant.

I have been experimenting with various honey-plants for 15 years, and am now convinced that in southeastern Nebraska catnip excels all others in the secretion of nectar. In communities where it grows in abundance bee-keepers never fail to get a crop of honey. Wm. Burow, a German bee-keeper living 12 miles north, first called my attention to it 10 years ago, he having secured 250 pounds per colony of fine white comb honey from it in years when my bees only gathered sufficient to winter on. He has since

DITTMER'S FOUNDATION Wholesale and Retail

This foundation is made by an absolutely non-dipping process, thereby producing a perfectly clear and pliable foundation that retains the odor and color of beeswax, and is free from dirt.

Working wax into foundation for cash, a specialty. Write for samples and prices.

A full line of Supplies at the very lowest prices, and in any quantity. Best quality and prompt shipment. Send for large, illustrated catalog.

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Beeswax Wanted.

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Queen-Clipping Device Free....

The MONETTE Queen-Clipping Device is a fine thing for use in catching and clipping Queens wings. We mail it for 25 cents; or will send it FREE as a premium for sending us ONE NEW subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,

GEORGE W. YORK & COMPANY,
118 Michigan St., Chicago, Ill.

Langstroth on... The Honey-Bee

Revised by Dadant—1899 Edition.

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains over 500 pages, being revised by those large, practical bee-keepers, so well-known to all the readers of the American Bee Journal—Chas. Dadant & Son. Each subject is clearly and thoroly explained, so that by following the instructions of this book one cannot fail to be wonderfully helpt on the way to success with bees.

The book we mail for $1.25, or club it with the American Bee Journal for one year—both for $1.75; or, we will mail it as a premium for sending us **THREE NEW** subscribers to the Bee Journal for one year, with $3.00.

This is a splendid chance to get a grand bee-book for a very little money or work.

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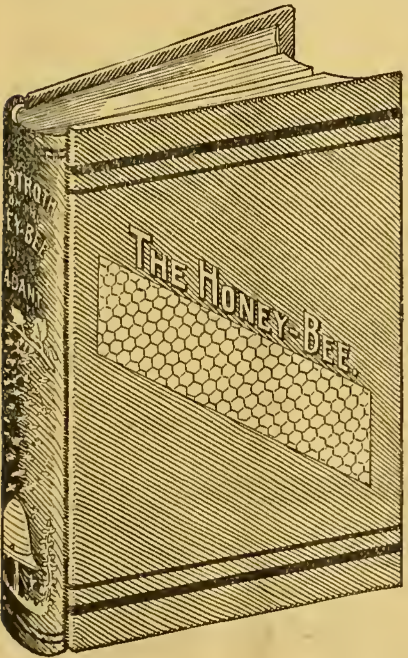
118 Michigan Street, - CHICAGO, ILL.



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Has no Fishbone in the Surplus Honey.
Being the cleanest is usually workt the quickest of any foundation made.
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Sole Manufacturer,
Sprout Brook, Montgomery Co., N.Y.

Queens UNTESTED ITALIAN, 50 cents each; tested, $1 each. Queens large, yellow and prolific. Circular free.
21Atf Address, E. W. HAAG, Canton, Ohio.
Please mention Bee Journal when writing

gathered seed for me which I have sown on waste vacant land and the highways, so that now I have quite a good stand of it. I have my bee-yard sown to it and it helps shade the hives. When once sown, that is sufficient, as it will stand drouth and does not freeze out, spreads rapidly, and secretes nectar every year after the first. It grows about 3 feet high, commences to bloom about June 15, and blooms until frost. The honey is white, very much resembling white clover honey, and I have failed to detect any unpleasant taste in eating it.

The seed can be sown in the spring or fall, and will do well on almost any kind of ground, but I find it does best along fences and in stump ground not too much shaded. I find that farmers do not object to having it sown on the highway as they do sweet clover.

If catnip is plenty by the side of sweet clover the bees will visit the clover very sparingly. From my observations I am convinced that it secretes in this community four times as much honey as sweet clover, which I regard as the next best honey-plant.

Our bees wintered poorly last winter. We lost from spring dwindling 20 to 40 percent. This caused a rush to get out of the bee-business, but those of us who remained have nothing to regret; notwithstanding we had a hail-storm that destroyed our basswood flow and greatly damaged sweet clover.

J. L. GANDY.
Richardson Co., Nebr., July 16.

Expects Little Surplus Honey.

Bees are lightly brooded, and working occasionally today, swarming some, but are not gathering much honey, and of poor quality. Josephus' famine cycle—5 years past and 2 to come—after that I expect some good honey seasons. My health is poor and I am in no other business but bee-keeping. I am 67 years old, but I have patience to wait for that cycle to pass. I had no surplus last year, and expect but little this year. Just now there is plenty of rain, and a moderate honey-flow.

E. H. STURTEVANT.
Washington Co., N. Y., July 14.

Third Poor Honey Season.

Bees have done nearly nothing so far this season. Prospects are gone for surplus, There is lots of clover but no honey, and the third season of it.

J. C. KELLY.
Tama Co., Iowa, July 14.

A Lively Hiving Experience.

Last fall my brother (Glen) was given a swarm of bees, and then purchast 3 more. Then I traded with him for one of them, and this spring he subscribed for the American Bee Journal. The bees wintered as nicely as could be, and the first swarm, the biggest of the season, came out May 15th, and went right straight off. He followed them for a mile on the run, and they went out of sight.

To-day my swarm came out. (Whew!) I had just bought an old hive with combs to put them in, and there was a lot of candied honey in it, so I wet the combs to dissolve it so the bees could use it. I guess that made them mad,

Sharples Cream Separators: Profitable Dairying

H. G. Quirin, the Queen-Breeder,
Is as usual again on hand with his improved strain of
GOLDEN
ITALIAN QUEENS.

Our largest orders come from old customers, which proves that our stock gives satisfaction. We have 12 years' experience in rearing queens, and if there is any one thing we pride ourselves in, it is in sending all queens promptly BY RETURN MAIL. We guarantee safe delivery.

Price of Queens after July 1.	1	6	12
Warranted	$ .50	$ 2.75	$ 5.00
Selected warranted	.75	4.00	7.00
Tested	1.00	5.00	9.00
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Extra selected tested, the best that money can buy	3.00		

Address all orders to
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(Money Order Office, Bellevue, O.)
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Liberal Discounts to the Trade.

Best on Earth
What? Our New Champion Winter-Case. And to introduce it thruout the United States and Canada we will sell them at a liberal discount until Oct. 15, 1900. Send for quotations. We are also headquarters for the NO-DRIP SHIPPING-CASES.
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Sheboygan, Wisconsin.
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Root's Goods at Root's Prices
POUDER'S HONEY-JARS and everything used by bee-keepers. Prompt Service—low freight rate. Catalog free. WALTER S. POUDER,
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And also located on the Yazoo & Mississippi Valley R.R. in the famous
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Soil Richest IN THE World.
Write for Pamphlets and Maps.
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The Bee-Keeper's Guide

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—BY—

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460 Pages—16th (1899) Edition—18th Thousand—$1.25 postpaid.

A description of the book here is quite unnecessary—it is simply the most complete scientific and practical bee-book publisht to-day. Fully illustrated, and all written in the most fascinating style. The author is also too well-known to the whole bee-world to require any introduction. No bee-keeper is fully equipt, or his library complete, without THE BEE-KEEPERS' GUIDE.

This 16th and latest edition of Prof. Cook's magnificent book of 460 pages, in neat and substantial cloth binding, we propose to GIVE AWAY to our present subscribers, for the work of getting NEW subscribers for the American Bee Journal.

Given for TWO New Subscribers.

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Send us TWO NEW SUBSCRIBERS to the Bee Journal (with $2.00), and we will mail you a copy of Prof. Cook's book FREE as a premium. Prof. Cook's book alone sent for $1.25, or we club it with the Bee Journal for a year—both for only $1.75. But surely anybody can get only TWO NEW SUBSCRIBERS to the Bee Journal for a year, and thus get the book as a premium. Let every body try for it. Will YOU have one?

GEORGE W. YORK & CO.,
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Golden Beauty Italian Queens,
Reared from imported mothers.

Untested, 50 cts.; 12 Untested, $5.50; Tested, $1.
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18Atf Please mention the Bee Journal.

for they staid just about an hour and then came out again.

Then I got stung in the hair, and my troubles began. The animals couldn't reach thru, so left the poison in my hair, and every bee I came near after that thought I had been into some meanness, and needed a popping. I dared not go within a rod of the flying bees on penalty of getting one or more in my hair.

They went back to the same place they clustered in the first time. I didn't have any more hives, so I tried to drive them back to the old hive by sprinkling them with water with the spray pump, and gave them an awful ducking. But they didn't go back worth a cent, and I got a stick and jarred them off. Didn't go back then, either. And some of them were so wet that they fell plump into the grass, and it took a full hour for them to get out and go back to the cluster.

When they got settled, Glen and a neighbor, Thompson by name, went up to cut off the limb. The bees had settled on one limb and a twig of another, so when they went to take it down the twig pulled out and pulled about half the cluster off. Thompson was holding the limb until Glen should get on the ladder. But the bees began to pop, pop, bang! and said neighbor jumpt and shook off half of the remaining bees, and Glen jumpt on the ladder real quick. Then he took the limb and walkt down without a sting, while Thompson solemnly affirms that he got a dozen. I had to get a pail of water and wash my hair out before they would let me alone.

The flying bees came down and began to cluster again, so Glen took them up on an old chicken-coop, and sat there for about an hour while they settled again. In the meantime—and a mean time it was—I got a frame of unsealed brood and put into the hive with the old combs.

$5.00 per month will pay for medical treatment for any reader of the American Bee Journal. This offer is good for 3 months ONLY—from May 1 to Aug. 1. Dr. Peiro makes this special offer to test the virtue of small price for best medical services. Reply AT ONCE.

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The Mississippi Valley Democrat
—AND—
Journal of Agriculture,
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A wide-awake, practical Western paper for wide-awake, practical Western farmers, stock-raisers, poultry people and fruit-growers, to learn the science of breeding, feeding and management. Special departments for horses, cattle, hogs, sheep, poultry and dairy. No farmer can afford to do without it.

It stands for American farmers and producers. It is the leading exponent of agriculture as a business, and at the same time the champion of the Agricultural States and the producer in politics. **Subscription, One Dollar a Year.**

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Seasonable Offerings **Golden Yellow Italian Queens**

Now is the time to improve your strain of bees. The Queens I offer are the finest in the land. I sold quite a number this season and all are delighted with the quality and so will you be, at 75 cents each, by return mail.

60-pound Cans, two to Crate.

I have 400 crates of two 60-pound cans each that were used once, and are nearly as good as new. I offer until this lot is exhausted at 50c per crate, or 10 crates at 45c each. New crates of two 60-pound cans each cost 85c. Speak quick. Root's goods at Root's prices, also Muth's Jars. Send for Catalog. HONEY AND BEESWAX WANTED. **C H. W. WEBER,**
2146 Central Ave., Cincinnati, Ohio.

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ARE YOU FULL OF GINGER? If you want health and vigor, good appetite and sound sleep, take **LAXATIVE NERVO-VITAL TABLETS,** the quick and safe cure for Constipation, Nervous Dyspepsia, Insomnia, Nervous Affections, the "Blues" and all attendant evils. It aids digestion, purifies the blood, strengthens the nerves, improves the appetite, induces sweet sleep, tones up the whole system and makes you a new creature. It not only makes you *feel* well, it makes you *really* well. It gives you that vim and vigor which makes life worth living.

LAXATIVE NERVO-VITAL TABLETS

It contains no narcotics nor bromides nor other injurious drugs. We give the formula with every box. You know exactly what you are taking. Originally put up for physicians' use. Ask your druggist for a **FREE SAMPLE.** If he hasn't it, don't take a substitute, but send us a stamp for our book on "Health" and we will send you a free sample, sufficient for you to try it and test its merits to your own satisfaction. *Isn't it worth trying free?* It positively cures. Price 10c and 25c per box. Don't delay sending.

The Modern Remedy Co., Kewanee, Ill.

Then Glen handed down the bees, and they let me alone as long as my hair was wet, and I shook them down in front of the hive. They went in all right that time, and have staid. I am proud of them now.

I suppose it is such things that give a fellow experience, but the going thru—O my!

If anybody wants minute directions about hiving bees without getting stung, apply to Glen Lewis.

E. A. LEWIS.

Montcalm Co., Mich., June 29.

Good Year for Bees.

This is a pretty good year for bees. I started with 31 colonies in the spring, and now have about 50, and about 1,500 pounds of section honey. Last year I had 38 colonies, but 7 died last winter.

ALBERT EVERDING.

Marshall Co., Ill., July 17.

Have Stored Some Honey.

My bees wintered without any loss, and have stored some honey. I have had only one swarm so far. They are on a town lot, so I can not increase them much. In fact, I do not want increase, so you see I have succeeded very well in this respect. A. SHAW.

Grant Co., Wis., July 12.

Season a Failure—Sweet Clover—Fruit Kept With Honey.

Our bees have made a complete failure this season. It has been so dry that white clover dried up in June. We have had two little showers lately, but they can do the bees no good. I think they stored a little honey-dew or red clover honey for a few days, but I don't know where they got it.

We shall have to commence feeding soon to keep them alive, and in a condition to fill up for winter. They are hunting everywhere for a little nectar, and the raspberry patch is just swarming with bees. A few colonies stored a little honey in fruit-bloom, but they carried that all down into the brood-nest with the exception of one colony from which I took about 16 pounds.

In our neighborhood the farmers try very hard to keep the sweet clover mowed down along the roadsides, as they seem to have a great fear of it. Sometimes we see that mowed and all other weeds left. Bees do not visit it much here, not like they do raspberry and other fruit bloom, nor even so much as strawberry bloom. I believe much depends upon the weather whether plants secrete nectar or not. In years when it is very dry nothing seems to yield much nectar.

When we get nothing in the spring we are apt to get a fall flow of honey. I think it is because we generally have more rain in the summer or fall if we don't get but little in the spring, and for that reason it pays to see to it that our bees have enough honey in July and August to keep the colonies in good condition to gather the fall honey. As a rule smartweed and Spanish-needle spring up abundantly when summer rains come on, but much of the smartweed, or rather heartsease, which looks very much like smartweed on oat-stubble ground, is plowed by the farmers early in the fall, so the bees do not get near as much honey as

SPECIAL NOTICE!

Last winter's cut of basswood is the whitest it has been for many seasons. We are now making sections out of this new stock and therefore are in a position to furnish you with the very finest quality in the market.

LEWIS WHITE-POLISHT SECTIONS

Are perfect in workmanship and color.

Orders shipt immediately upon receipt. A complete line of everything needed in the apiary. Five different styles of Bee-Hives.

Lewis Foundation Fastener simplest and best machine for the purpose. Price, ONE DOLLAR, without Lamp.

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Special Southwestern Agent.

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Four Celluloid Queen-Buttons Free

AS A PREMIUM.

OUR TOIL DOTH SWEETEN OTHERS

OUR TOIL DOTH SWEETEN OTHERS

For sending us ONE NEW SUBSCRIBER to the Bee Journal for the balance of this year, with 50 cents, we will mail you FOUR of these pretty buttons for wearing on the coat-lapel. (You can wear one and give the others to the children.) The queen has a golden tinge. This offer is made only to our present regular subscribers.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate, it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

Prices of Buttons alone, postpaid: One button, 8 cts.; 2 buttons, 6 cts. each; 5 or more, 5 cts. each. (Stamps taken.) Address,

GEORGE W. YORK & CO., 118 Michigan St., CHICAGO.

QUEENS!

Untested Queens, Italian, 60 cents. Tested, $1.00.
From honey-gathering stock.
We keep in stock a full line of popular Apiarian Supplies. Catalog free.

Apiaries—Glen Cove, L. I. I. J. STRINGHAM, 105 Park Place, New York, N. Y.

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18A13t H. L. WEEMS, Hanford, Calif.

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Second-Class Queens,
(What Becomes of Them?)

As to color of progeny there are some tested queens that are second-class, that are equal to any for business. That is, 3-band bees predominate in the offspring of golden mothers. These are sold at 50 cents each. If 5-band bees predominate, and do not exceed 80 percent, they are worth $1.00; above this and not to exceed 95 percent, $1.25; all of a higher grade and not uniformly markt, $1.50 each; while first-class breeders are placed at only $2.00.

Untested, either 3 or 5-band, 75c each; or 3 for $2.00. Money order office, Warrenton, N. C.

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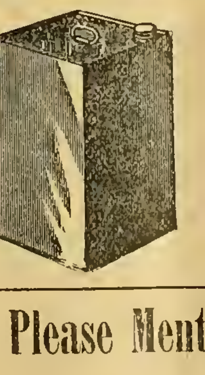

We have a stock of second-hand 60-pound Tin Cans, put up two in a box, which are practically as good as new, each can having been carefully inspected by an expert honey-man before boxing them. While they last, we can furnish them at these low prices—just about one-half the cost of new cans:

5 boxes (or 10 cans) 50 cents per box; 20 boxes or over, 45 cents per box; 100 boxes or over, 40 cents per box.

Address, cash with order,

GEORGE W. YORK & CO.
118 Michigan Street, CHICAGO, ILL.

Please Mention the Bee Journal when writing Advertisers.

they would if the stubble ground could be left unplowed.

Fruit put up uncookt in honey always sours for me. I have tried it several times. Possibly if the fruit could be cookt and the honey poured into it and just brought to a scald, and then canned, it would not injure the taste of the honey very much, and would keep. Peaches are better sweetened with honey than sugar before canning. MRS. L. C. AXTELL.

Warren Co., Ill., July 10.

Slow Sealing of Honey--Sweet Clover in Mississippi.

I have taken very little honey so far. My bees are mostly in three stories, two of which are filled with brood and honey, but they don't seem to be in any hurry about sealing the honey. I rather fear I have been rearing bees at the expense of honey. I would like to ask Dr. Miller whether I am allowing them too much liberty, or whether I should have confined the queens to one story by excluders.

Generally, when I want to learn anything about bees, I watch Dr. Miller's department, as some "greenhorn" is sure to ask what I want to know; but I have watcht in vain for some sure sign to tell when bees are preparing to swarm (some outward sign) without having to pry into their private apartments (brood-nest).

Will Mr. M. M. Baldridge tell us what his experience is with sweet clover in Mississippi? Is it best to sow in the fall or early spring, or will any old wet spell do? I have a road, but little used, about 1¼ miles long, 23 feet wide, running thru my place. If I plow this up mud-pike fashion, and sow to sweet clover, would it likely cut much of a figure toward the support of 100 colonies? ALBERT VOUGHT.

East Carroll Co., La., July 13.

Not an Encouraging Report.

Last fall I put my 43 colonies into the cellar, and all came thru the winter in fair condition. They built up fine on the willow bloom, but when apple-blossoms came they died at a fearful rate, so that hardly any but young bees were left; but they had recovered again when white clover came into bloom, and did some good work until basswood opened, which was loaded with bloom, but the weather clerk was against us, so they had only about two days to make use of the basswood—it was too rough and windy. Our only hope now is the king of all—sweet clover—of which we have a great amount, if the people will let it stand long enough to give the bees a chance. I have as yet taken only about 1,000 pounds of honey. A. WICHERTS.

Cook Co., Ill., July 16.

Long Drouth in Minnesota.

This is a poor season for honey in this vicinity. There was no rain from the first of April to the first of July—dry weather and cool nights, no honey, and bees bred but little. Some bee-keepers had to feed thru the month of

BEE-BOOKS

SENT POSTPAID BY

George W. York & Co. 118 Mich. St. Chicago.

Bees and Honey, or Management of an Apiary for Pleasure and Profit, by Thomas G. Newman.—It is nicely illustrated, contains 160 pages, beautifully printed in the highest style of the art, and bound in cloth, gold-lettered. Price, in cloth, 75 cents; in paper, 50 cents.

Langstroth on the Honey-Bee, revised by Dadant.—This classic in bee-culture has been entirely re-written, and is fully illustrated. It treats of everything relating to bees and bee-keeping. No apiarian library is complete without this standard work by Rev. L. L. Langstroth—the Father of American Bee-Culture. It has 520 pages, bound in cloth. Price, $1.25.

Bee-Keepers' Guide, or Manual of the Apiary, by Prof. A. J. Cook, of the Michigan Agricultural College.—This book is not only instructive and helpful as a guide in bee-keeping, but is interesting and thoroly practical and scientific. It contains a full delineation of the anatomy and physiology of bees. 460 pages, bound in cloth and fully illustrated. Price, $1.25.

Scientific Queen-Rearing, as Practically Applied, by G. M. Doolittle.—A method by which the very best of queen-bees are reared in perfect accord with Nature's way. Bound in cloth and illustrated. Price, $1.00.

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Advanced Bee-Culture, Its Methods and Management, by W. Z. Hutchinson.—The author of this work is a practical and entertaining writer. You should read his book: 90 pages, bound in paper, and illustrated. Price, 50 cents.

Rational Bee-Keeping, by Dr. John Dzierzon.—This is a translation of his latest German book on bee-culture. It has 350 pages, bound in paper covers, $1.00.

Bienen-Kultur, by Thos. G Newman.—This is a German translation of the principal portion of the book called "Bees and Honey." 100-page pamphlet. Price, 25 cents.

Bienenzucht und Honiggewinnung, nach der neuesten methode (German) by J. F. Eggers.—This book gives the latest and most approved methods of bee-keeping in an easy, comprehensive style, with illustrations to suit the subject. 50 pages, board cover. Price, 50 cents.

Bee-Keeping for Beginners, by Dr. J. P. H. Brown, of Georgia.—A practical and condenst treatise on the honey-bee, giving the best modes of management in order to secure the most profit. 110 pages, bound in paper. Price, 50 cts.

Bee-Keeping for Profit, by Dr. G. L. Tinker.—Revised and enlarged. It details the author's "new system, or how to get the largest yields of comb or extracted honey." 80 pages, illustrated. Price, 25 cents.

Apiary Register, by Thomas G. Newman.—Devotes two pages to a colony. Leather binding. Price, for 50 colonies, $1.00; for 100 colonies, $1.25.

Dr. Howard's Book on Foul Brood.—Gives the McEvoy Treatment and reviews the experiments of others. Price, 25 cents.

Winter Problem in Bee-Keeping, by G. R. Pierce.—Result of 25 years' experience. 30 cts.

Foul Brood Treatment, by Prof. F. R. Cheshire.—Its Cause and Prevention. Price, 10 cts.

Foul Brood, by A. R. Kohnke.—Origin, Development and Cure. Price, 10 cents.

Capons and Caponizing, by Dr. Sawyer, Fanny Field, and others.—Illustrated. All about caponizing fowls, and thus how to make the most money in poultry-raising. 64 pages. Price, 20c.

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Everybody knows of THE NEW VOICE as the greatest temperance and prohibition weekly newspaper on earth. We have made arrangements with its publishers, so that we can offer it for the 5 months beginning with July 1,

Free as a Premium for sending us one New Subscriber for one year to the American Bee Journal (with $1.00.)

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THE NEW VOICE is $1.00 a year; but to any one who will send us 30 cents, we will have it mailed for the 5 months mentioned above; or for $1.20 we will send any one the American Bee Journal for one year and THE NEW VOICE for the 5 months—July, August, September, October and November.

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Untested Queens	$0.90	$2.50	$4.50
Select Untested Queens	1.25	3.25	6.00
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May to keep their bees alive. I have not heard of any honey being taken off yet, and but very few swarms. There is not as much white clover this year as usual. Basswood is just coming into bloom, and the bees are in a rush. There has been plenty of rain for the last two weeks, and we are hoping for a better flow of honey the balance of the season. My bees have made a good beginning in the sections. I have had only one swarm to issue, but I am looking for more every day.

S. B. SMITH.

Millelacs Co., Minn., July 14.

A Defense of Sweet Clover.

I notice on page 413, A. F. Foote says he wants sweet clover started in his locality but the farmers object. I would say they object to one of the greatest fertilizers that grows; also, cattle and horses can be taught to eat it, and when they do there is no better hay grows. It produces an abundant crop of fine-flavored white honey, the flow lasting for about three to three and a half months. In this locality about three-fourths of our honey comes from sweet clover.

I had as much opposition when I planted my first seed, but I planted the seed just the same; now nearly all the farmers see the value of it.

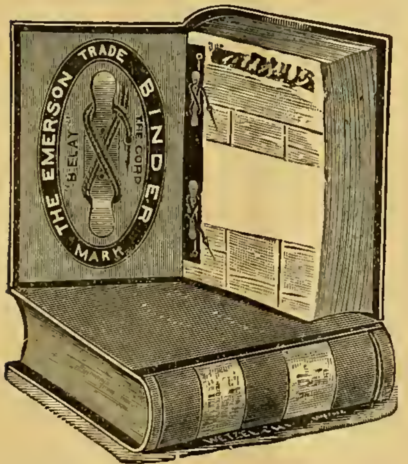
We also have cleome here with a yellow blossom. It is generally a little earlier than the pink. I would not favor planting it in this locality, as it is good only for bees, so far as I know; while some claim it pays to raise the seed for poultry. Sweet clover feeds my bees in summer and my cows in winter, and it produces good milk and honey.

I divide my bees, and have none fly off and leave me. C. W. SNYDER.

Garfield Co., Utah, July 13.

P. S.—I extracted honey the last week in June, this being the first year that such a thing has happened earlier than July 15. C. W. S.

The Emerson Binder



This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

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High Grade Italian Queens

One Untested Queen......$ .60
One Tested Queen .... .80
One Select Tested Queen 1.00
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27 Years Rearing Queens for the Trade.
We Guarantee Safe Arrival.

J. L. STRONG,
14Atf CLARINDA, Page Co., IOWA.
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Rocky Mountain Bee-Plant Seed!
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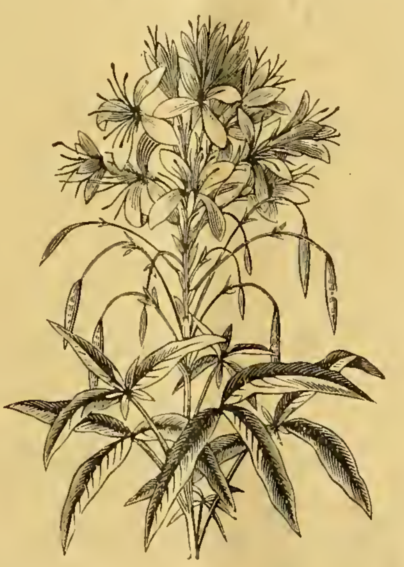
The A B C of Bee-Culture says of it: "This is a beautiful plant for the flower-garden, to say nothing of the honey it produces. It grows from two to three feet in hight and bears large, clusters of bright pink flowers. It grows naturally on the Rocky Mountains, and in Colorado, where it is said to furnish large quantities of honey."



We have a few pounds of this Cleome seed, and offer to mail a ¼-pound package as a premium for sending us **ONE NEW** subscriber to the American Bee Journal, with $1.00; or ¼ pound by mail for 40 cents.

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118 Michigan St. CHICAGO ILL.

NOTICE!

I have been running some colonies on shallow brood-chambers for comb honey, and I expect to unite them to the parent hive. Persons who have lost bees, and have vacant hives and combs, can have the bees of these colonies—queen and all—for $2.00 each, to be forwarded in light cases. Safe arrival guaranteed. A limited number only. Write soon.
30A1t HARRY LATHROP, Browntown, Wis.
Please mention Bee Journal when writing.

Wanted to Exchange!

50-egg incubator and brooder for a honey-extractor; or will exchange for empty hives, bees, or honey. A. SHAW, box 199, Boscobel, Wis.
30Atf Please mention the Bee Journal.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, July 7.—Some new white comb honey is selling at 15c; not much offered and not much demand for it. Extracted is slow sale; best white, 7@7½c; best amber, 6½@6¾c; dark amber, 5@5½c. Beeswax, 27@28c.
R. A. BURNETT & Co.

CINCINNATI, July 20.—White extracted honey, 7@7½c; southern extracted, 5¼@6½c, owing to quality. No comb honey on market. Good demand for beeswax at 25@27c.

Shipments of extracted honey from the South are more numerous than a few weeks ago, but we find it hard to make sales, owing to a slow demand. C. H. W. WEBER, 2146 Central Ave.

BUFFALO, July 20.—For strictly fancy white one-pound comb honey we are getting 16@17c. Any grade sells high—10@15c, as to grade.
BATTERSON & Co.

KANSAS CITY, July 20.—We quote: New No. 1 white comb, 14@15c; No. 1 amber, 14c; dark, 13c. Extracted, old, 6@6½; no new in market. Beeswax, 22@25c. C. C. CLEMONS & Co.

DETROIT, July 24.—Fancy white comb, 15@16c; No 1, white, 14@15c; amber and dark, 10@12c. Extracted, white, 7c; amber and dark, 5@6c. Beeswax, 25@26c.

Supply and demand for honey both limited.
M. H. HUNT & SON.

NEW YORK, July 21.—Our market is practically bare of comb honey, and there is a good demand for white at from 13@15c per pound, according to quality and style of package. The market on extracted is rather quiet, and inactive. New crop is slow in coming in, and prices have not yet been establisht. Beeswax holds firm at 27@28c. HILDRETH & SEGELKEN.

SAN FRANCISCO, July 3.—White comb, 12@12½c; amber, 8@10c. Extracted, white, 6½@7c. light amber, 5¾@6¼c; amber, 5¼@5¾c; Beeswax, 26@27c.

The market is fairly supplied with amber extracted, which is arriving mainly from the San Joaquin section, and is meeting with a moderate demand at current rates, both for shipment and local use. Water white honey is scarce, either comb or extracted. Choice comb is inquired for, and in a small way is salable over figures warranted as a regular quotation.

WANTED—HONEY AND BEESWAX.

We have a tremendous and growing trade in this line, and would like to hear from all who have such goods to sell in any part of the country, with quality, description, and lowest cash price. THOS. C. STANLEY & SON, Fairfield, Ill.

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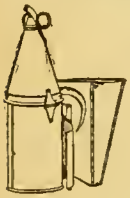
made of sheet-brass which does not rust or burn out should last a life-time. You need one, but they cost 25 cents more than tin of the same size. The little pen cut shows our brass hinge put on the three larger sizes.



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DROP INKY DROPS.

The perforated steel fire-grate has 381 holes to air the fuel and support the fire.

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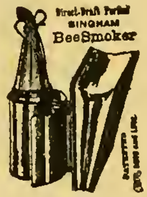

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Farwell, Mich.

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1 Untested Queen ..$1.00
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1 Tested Queen 1.25
3 Tested Queens.... 3.00
1 select tested queen 1.50
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Select Tested Queen, last year's rearing. 2.50
Extra selected breeding, the very best..5.00

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11A26t Borodino, Onondaga Co., N. Y.

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Because in 23 years there have not been any complaints, but thousands of compliments.

We guarantee satisfaction.

What more can anybody do? BEAUTY, PURITY, FIRMNESS, No SAGGING, No LOSS.
PATENT WEED PROCESS SHEETING.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

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Langstroth on the Honey-Bee, Revised.

The Classic in Bee-Culture—Price, $1.25, by Mail.

Beeswax Wanted at all times.

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Hamilton, Hancock Co., Ill.

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WOOL MARKETS AND SHEEP, CHICAGO, ILL.

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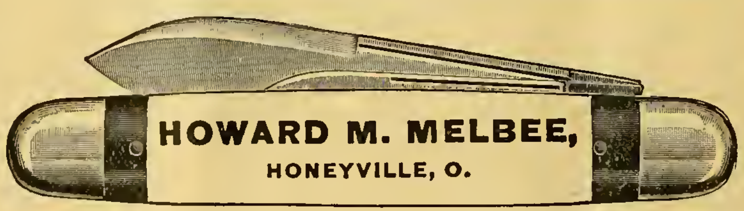
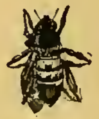
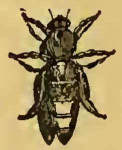
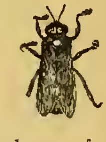
Your Name and Address on one side—Three Bees on the other side.



[THIS CUT IS THE FULL SIZE OF THE KNIFE.]







Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and in case of death, your relatives will at once be notified of the accident.

How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

How to Get this Valuable Knife.—We send it postpaid for $1.10, or give it as a Premium to the one sending us THREE NEW SUBSCRIBERS to the Bee Journal (with $3.00.) We will club the Novelty Knife and the Bee Journal for one year, both for $1.90.

GEORGE W. YORK & CO., 118 Mich. St., Chicago, Ill.

☞ Please allow about two weeks for your knife order to be filled.

GEORGE W. YORK, Editor.

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BEE JOURNAL.
DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS.

40th YEAR. CHICAGO, ILL., AUGUST 2, 1900. No. 31.

CONTRIBUTED ARTICLES

Benefits of Organization Among Bee-Keepers.

BY F. L. MURRAY.

(Read at the Wisconsin Convention at Madison, Feb. 7 and 8, 1900.)

IN my opinion there is only one way to accomplish any purpose for the benefit of a community, and that is to combine our forces and work together. No matter to what industry we belong it is up-hill work for any individual to reach the top of the ladder without the help and co-operation of his fellow laborers. And it is just as essential for bee-keepers to unite their forces, that is, join a good society or societies, both local and national, as it is for any other industry to combine.

In this age of strife and competition (or "dog eat dog") the unorganized forces soon give up the day and are at the mercy of the unscrupulous organized faction who live on the fat of the land at our expense.

A Chicago lady informed me that all during the last two years when we were getting 10 or 12 cents for our fancy comb honey, they had to pay 20 cents per pound for every pound they bought in Chicago, and a friend of mine informed me that he went thru a wholesale grocery store in Chicago last spring where they were making more "honey" every month than a good many of us bee-keepers could produce with our bees, and without a doubt there are a great many such establishments in every large city.

Now, don't infer from what I have said that I favor trusts and monopolies, for I think they are the curse of the present age; but I do believe in organization to protect our own interests and enforce laws for our benefit.

For instance, would we ever have had a foul brood law in the State of Wisconsin if it were not for the bee-societies in our State, especially the Southwestern Bee-Keepers' Association? If it had not been for that association it is very doubtful if we would have had the law yet. I joined this association at Montfort, Wis., in 1894, and have attended every meeting since. At Wauzeka, in 1896, our present foul brood law was framed and adopted, and by the hard work and hearty co-operation of its members—especially our present foul brood inspector, Mr. N. E. France, who is a whole society in himself in his unbounded enthusiasm and untiring zeal for the bee-keepers at large—it was put thru. Of course, we will have to give the State society the credit of having the winning name which we had to use to get the State law thru, but outside of the name the Southwestern Bee-Keepers' Association has done almost everything that has been done so far for the benefit of the bee-keepers in the State of Wisconsin.

The present convention is one of the largest and most interesting I have attended in the State, and as a member of the State association I am pleased to note that thru the energy of its present officers it has again been "resurrected," as it were, and thru it and co-operation with the Southwestern and the other local societies of the State we should be able to accomplish a great deal more in the future than we have in the past.

There are a great many things that could be accomplisht by thoro organization. The first duty of a bee-keeper is to get his or her bee-keeping friends interested in the local or State societies, for in this way it is easier to get them interested in the National society, and it is to the National Bee-Keepers' Association that we can look for assistance and support in the greatest evil our fraternity has to contend with—adulteration. I think it is of vital importance that every bee-keeper here today should join the National Bee-Keepers' Association, and whether we fight adulteration thru that society direct, or thru legislation for

Mr. and Mrs. F. P. White and Apiary, of Lafayette Co., Wis.

honey alone, or for a general pure-food bill including honey (which I think would be better, for then we could co-operate with other sufferers from adulteration, and would get the combined influence of several branches of industry), it matters not, for, anyway, it can be done *only* by organization.

I am not going to give here a plan of operation—I will leave that to older and wiser heads than mine—but I merely wish to try to show some of the good that could be done thru thoro organization. We should also have a systematized method of marketing the honey crop. We have no trouble about marketing any other farm product, why honey?

There are a great many other things that could be accomplisht by uniting our forces, and I wish to say again that it is the duty of every honey-producer to belong to the local bee-society nearest to him, to the State society, and to the National. This rule should stand good in every State in the Union.

Get into line, fellow bee-keepers, in this day of progress and improvement, and let us show the people that we are fully able to take care of ourselves and the interests of our beloved pursuit. Lafayette Co., Wis.

The Importance of Water for Bees.

BY PROF. A. J. COOK.

I HAVE been reading that splendid work on bee-keeping, Root's "A B C of Bee-Culture"—a work of which every American bee-keeper may well be proud—and the comments in that, with what I read in the journals, leads me to wonder if we all know all that is to be known regarding the use of water in the apiary. Mr. Doolittle has said in the American Bee Journal that bees need large quantities of water when breeding, implying that water is used to feed the young bees.

In the higher animals, water, next to oxygen, is the largest food factor in the animal physiology. When we consider the work that water does in the animal economy, we do not wonder at this. Water makes up the large proportion of all the tissues of the body. I have seen the statement that water makes up one-twelfth of the teeth, and it is true that some of the liquids of the body, like the saliva, are almost entirely made up of this liquid—995 parts of every 1,000 of the saliva are water. The animal, then, needs water to form its very substance.

Again, all the functional activity of the body—as absorption, circulation, assimilation—requires that all the elements concerned in the operations be in solution. We all know that water is nature's great solvent. Water is what keeps all the nutrient substances of the body in solution. Water serves plants also in the same way. Plants are not only composed largely of water, but water holds the food elements of the plant in solution, and so we see why plant and animal alike thirst for water.

Animals possess another function that requires much water to carry it on. As this functon is very essential, even necessary to life itself, we see another reason why water must never be stinted if good vigor is to be maintained. I refer to perspiration. We know just how much heat is generated in the body in an hour, and we know that a rise of a few degrees of heat is fatal. Both of these differ in different animals. It is found that on an average man generates heat enough to kill him in between three and four hours, were there not some way to cool him off. Perspiration is the way that this cooling off is done. There is a tremendous heat-producing engine in the body. The heat comes from what is called destructive metabolism. or katabolism. These terms refer to the tearing down of tissue, consequent upon the work of the body.

Most animals get the water in all of the food, much of which, as is true of many fruits and vegetables, may contain over 90 percent of water in their composition. Bees are less fortunate in this respect than are most animals, as there is not a very large amount of water in either honey or pollen. It is probable that bees need a very large amount of water. They have tissues like other animals, which, as we have seen, are largely composed of water. Their food, like that of other animals, must be in solution to be available. They are very active, and this implies very rapid metabolis. We have seen that metabolism is the source of animal heat, and we do not wonder that bees soon warm up when anything disturbs the heat equilibrium of the body.

Is it not more than probable that bees must profit by the mechanical aid which comes from evaporation of water from their bodies? I see no reason to doubt the truth of this. Who of us has not seen the wet, sticky mass when the hives have been shut up on a hot day so that the water could not pass off. The bees can not ventilate the hive, and the water of respiration, which at such times becomes very rapid, and of perspiration, can not pass off, and we soon have a forbidding mass of dead bees and water, which becomes more and more gruesome, until death ends all.

We know how we suffer on a hot day in case the air is loaded with moisture. This moisture in the air is unfavorable to evaporation, and the cooling process is stayed. We are very much favored in this matter in Southern California. The air is almost always dry when it is hot, and the evaporation from the body is so rapid that we do not feel even intense heat. I have known men to shingle houses when the mercury was over 100 degrees, and they seemed to feel no inconvenience. At such times a person may plunge into an irrigating ditch, and in a very short time his clothing will be entirely dry. Dry air must be around us to permit this grateful evaporation. Do not bees ventilate the hives on a hot day as we fan ourselves, and as the dog extends its tongue to promote this evaporation and so cool off? As bees do not get as much water in their food as do many other animals, and as they are very active animals, and must be cooled off by excessive evaporation, we readily see why they need much water, and why they repair to the rill and pool when work is great, and weather is warm.

Of course, bees are most active in warm weather, and then for two reasons they need much water. When the weather is very warm we are usually more quiet, and so do not need to do so much cooling off, and do not evaporate so much water from respiration and perspiration. If the weather is very hot, and we must perforce work hard, then we breathe fast, sweat much, and must drink great drafts of water to supply the needs of the blood. The water is passing very rapidly from the blood, and must be as rapidly supplied. Bees are hard at work on the hottest days, as then is their harvest, and so they must have great quantities of water to supply their pressing needs.

I doubt, then, if it is correct to say that bees need water to aid in brood-rearing. When they are very busy gathering from the field, then brood-rearing is very active, and as the bees are at hardest work they need to do very great cooling off, both because of the heat and the activity, and so must have much water. In case we have a protracted rain-storm, the bees do not stop brood-rearing, but do stop the active gathering in the field. They stop gathering water perforce. If water was directly necessary in the work of brood-rearing, then rearing brood would stop at all such times, which is not the case. Pollen or bee-bread is necessary to brood-rearing, and when there is no pollen then brood-rearing ceases.

I think that we are safe, then, in holding that water is necessary in the nutrition of the bees, and in regulating the bodily heat. It is more important when the bees are very active, and so in hot weather, when bees are most active in the field, then it is that they need most water. It is not likely that they use the water directly in rearing brood, but as brood-rearing is usually most active when the bees are at full work, it is a pretty sure indication of the amount of water needed by the bees. Water is, without doubt, very necessary, and so should always be supplied when the bees can not get it near the apiary. In winter the bees are so quiet that this need is fully met by the water in the honey, which is the main, if not the entire, food of winter. Los Angeles Co., Calif.

Beeswax and How It is Bleacht.

(Taken from the Chicago Record, in its department of "Shop-Talk on the Wonders of the Crafts.")

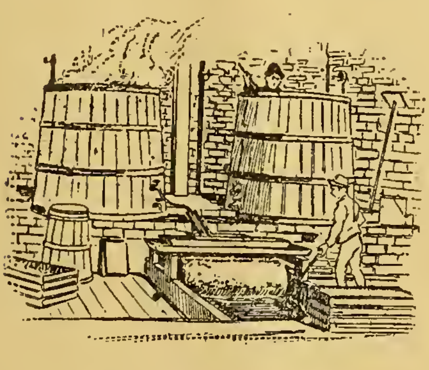
EVERY little while the commission men on South Water street receive round, flat cakes of beeswax. Some of them are dark brown, and others are light yellow, and the man who hails from New Jersey can tell where the beeswax came from by its color.

"That dark-brown cake," he said, "came from Wisconsin, for the bees up there are fond of the tobacco-plant and wild grapes, but that pretty yellow cake came from Iowa or central Illinois, and the bees that made it tapt nothing but clover blossoms. Most of the beeswax goes to the East, if it isn't too dark in color, for the biggest bleacheries are there. Cobblers, harnessmakers and tailors use the dark-brown beeswax. They seem to think it is the best for their work. So it is in one respect, for the waxt thread then is nearer the color of the leather, but shoemakers who make fine hand-sewed shoes use the bleacht wax. Down

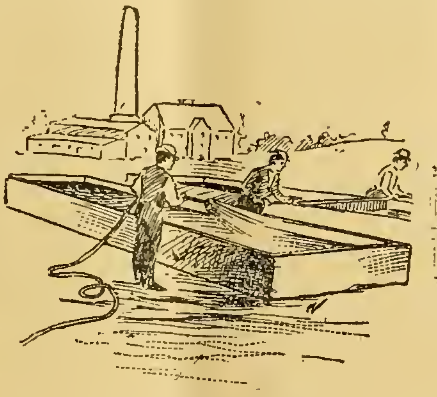
East, where I came from, the wax is light yellow, and I have seen some of the same color which came from Africa, but the Cuban bees love tobacco as much as the Badger State bees do, and their wax is darker brown—too brown sometimes to be whitened. You don't know what beeswax is? I know it comes from honey-bees, but where they get it from is more than I can tell, and I guess there is no man on the street who con tell for sure.

It is supposed that beeswax in its original form is a sort of scale on the stomach of honey-bees. When the little busy bee thinks of storing up honey, it begins working its legs energetically, patting its stomach and carrying the scales to its mouth, where it mixes them with a frothy liquid until the scales are soft and plastic. When the scales are kneeded enough the bee makes the hexagonal cells of the honey-comb in which it places its gathered sweets, for it knows that unless the honey is kept from the light it will change, and will not be fit for its food in winter. When the man who owns the bee-hive is ready to rob it of its honey, he removes the comb, and either sends to market the little glass-faced box with the honey-comb in it, or else he puts the comb in a centrifugal machine and whirls the honey out of it. He then puts the comb in boiling water and melts it down, running the melted beeswax into little cakes.

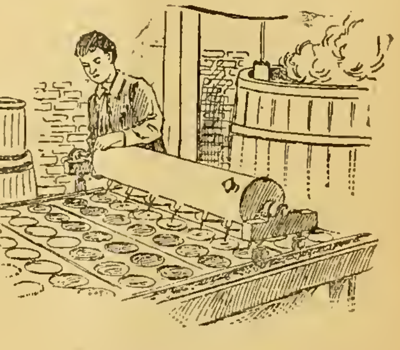
It is estimated that for every pound of honey there is one pound of comb, and that over 1,000,000 pounds of beeswax are used in this country every year. Since chemists and refiners went into active competition with the honey-bees and made a pure, white wax, or paraffin, out of petroleum, the use of beeswax in the manufacture of sperm candles, wax flowers and carbon papers has gone down, but the cobblers, tailors, and harnessmakers still stick by the honey-bee, and declare that no petroleum wax can equal beeswax when it comes to wax-ends for slipping thru awl-holes. Chemists, artificial flower-makers, laundries, and other users of wax have not all gone over to the enemy, as the 500 tons of beeswax consumed annually indicate that the honey-bees have hosts of friends left.



Running Off the Beeswax.



The Bleaching-Frames.



Molding the Beeswax.

But many of these friends require white, or nearly white, wax, and the yellow wax made by the bee must first be whitened or bleacht before it is put on the market. The sun is the bleacher, so all bleacheries are in the country away from the dirt and smoke of cities, and usually in the center of large honey-districts. The beeswax is sent to the bleaching-house in the shape of loaf-shaped cakes, each weighing about 25 pounds. These cakes are broken into small pieces and put into a vat or tub made of cedar, about five feet high and three feet across. In the bottom of this vat are two square wooden pipes, crossing each other at right angles. The tops of these pipes have a number of holes bored in them, and both are connected with a steam pipe which brings the steam to them at a pressure of about 60 pounds to the square inch. From 1,200 to 1,800 pounds is placed into the vat at a time, and enough water is run in to float the wax. Then the steam is turned on, and it jets up thru the holes in the wooden pipes, melting the wax. The dirt in the wax falls to the bottom of the vat, and the melted wax, about three hours after the steam is turned on, is ready to be drawn from the vat.

Not far from the vat in which the wax is melted is a wooden roller about five feet long and a foot and a half in diameter. This roller revolves in cool water, and when the melted wax, after first passing thru a sieve, falls upon it in narrow ribbons it chills at once, and, sticking to the roller, is carried around into the water. The roller turns once every second, and when the chilled ribbons of beeswax are carried around into the cooler water they fly off of the roller into the water-bed.

From the cooling bed the wax is lifted on wooden forks placed in boxes and carried outside to the bleaching-beds. These are called frames, and stand about three feet above the ground. Each frame is about 100 feet long, 15 feet wide and a foot deep. In each frame half a ton of wax is spread, and there it stays for a month or five weeks, depending upon the number of sunny days, for the wax is exposed to the full light of the sun. Several times a day the wax is sprinkled with water to keep the sun from melting it, and once each day two men harrow it with a rake which extends across the frame, so that in the month of bleaching every bit of wax has all of its sides exposed to the sun several times.

At the end of a month the yellow wax has turned a creamy white, and it is then taken back to the melting vat and remelted, run thru the screen over the wooden roller and brought back to the bleaching-frames for another stay, this time, however, for only two weeks. By this time the beeswax is pure white, and is ready to be put into marketable shape. The boys take about 500 pounds of wax and melt it in a small tub. Near the tub is a table on which stands a large number of pans about four inches in diameter, and a quarter of an inch deep. The pans are arranged in rows, for the melted wax is poured into one row at a time. Above the pans and across the full width of the table is a movable copper cylinder. It is really a double cylinder, one inside of the other, and the space between the two is filled with hot water. The melted wax is poured into the inside cylinder, and is kept in a liquid shape by the hot water-jacket.

A number of small tubes lead from the inner cylinder thru the water-jacket, and one valve turns the melted wax into all the tubes, so that the boy who is filling the little pans can move the cylinder along until it is over a row of pans, and then can turn the valve and fill the entire row at once. In an hour the wax in the pan-molds is cold, and is ready to be shipt.

[In the Chicago Record, about a week later, appeared the following:—Editor.]

LETTERS OF CORRECTION FROM BEE-KEEPERS.

In a recent "Shop Talk" on the preparation and bleaching of beeswax for use, a typographical error placed the proportion of comb to honey as "one pound of honey to one pound of comb." The error was such a palpable one that probably the great majority of readers charged it against the compositor. Among the correspondents who have noticed the error are the following, who, besides correcting the mistake, add some interesting information on bees and honey, which subjects were but slightly toucht upon in the Record, because the article in question related to the bleaching of beeswax, and not the bee-keeping industry:

Dr. C. C. Miller, of McHenry Co., Ill., writes:

"I have been much interested in the series of articles, 'Shop-talks on the Wonders of the Crafts.' I suppose they are in the main reliable, but when it comes to talking about anything connected with bee-craft the general rule holds that everything found in print in that line outside of bee-books and bee-journals may be counted on to abound in errors. The beginning of the fourth paragraph contains this statement: 'It is estimated that for every pound of honey there is a pound of comb.' Without asking faith in any statement of mine I think any one will be able to see that this statement is wrong. Take a piece of comb honey and look at it. Does it seem that the wax in it weighs as much as the honey? It may be you haven't a piece of comb honey on your desk, but you may have market reports. A report before me gives: 'Dark comb honey, 10 to 13 cents per pound; beeswax, 27 to 30 cents; extracted honey, 5 to 7 cents.

"Now suppose a man sends to Chicago a consignment of dark comb honey for which he gets 10 cents a pound, I suppose you know that all that is necessary to get the beeswax out of that comb honey is merely to melt the whole mass, and on cooling the cake of wax will be on top.

"He takes two pounds of that comb honey, melts it, and has one pound beeswax, say 27 cents; one pound extracted honey, 5 cents; total 32 cents, or 16 cents a pound, as against 10 cents that it will bring as comb honey. At that rate do you suppose there would ever be a pound of dark 10-cent honey on the market?

"Instead of saying for every pound of honey a pound of comb, it would not be far out of the way to say half an ounce of comb to a pound of honey.

The idea exprest about black beeswax coming from tobacco, and light yellow wax from clover is all nonsense. Very dark wax and very light wax comes from clover, as I suppose it does from tobacco; but I doubt if a pound of wax can be produced that can be proved to have come from tobacco. There are lots of things about bees of real interest to the general public, concerning which the public ought to be informed, at least it seems so to me, but I may not be a fair judge in the matter.

"If you will write me next summer I'll take pleasure in sending you some scales of wax just as they come from the bee, and I never saw them of any color but white, no matter what plant the bees workt on. The color came afterward.—C. C. MILLER."

M. M. Baldridge, of Kane Co., Ill., writes:

"Every bee-keeper knows, in case he knows anything worth knowing about his specialty, that no one can tell by its color simply from what locality beeswax comes, nor from what class of flowers it is made. The color of wax depends almost entirely upon the age and condition of the comb from which it is made, and sometimes upon the vessel used in melting the comb. Honey-comb from which beeswax is made is secreted from honey, and dark honey will make just as white comb as light-colored honey. For instance, buckwheat honey is what is known to bee-keepers as dark honey, but its color depends somewhat on the soil upon which the buckwheat is grown, sandy soil producing a lighter-colored honey than our rich, black prairie land. Now, buckwheat honey, when converted into wax by the bees, makes the very whitest of comb, and consequently makes white or light-yellow beeswax. When the comb becomes old and dark by being left in the hives for a term of years, and is used by the bees for breeding purposes, it then makes, when melted, what is known as dark-yellow or dark-brown beeswax. And it matters not whether it comes from the East, West, North or South. Again, if the combs be melted in bright tin it will be of lighter color than when melted in iron vessels, as iron always discolors hot wax. For this reason no one should use iron in which to melt either wax or comb, in case a product of the lightest possiable color be desired.

"Now, it is barely possible that bees may work to some extent on the blossoms of tobacco, but that they gather much honey therefrom, or that they are 'fond of the tobacco-plant,' needs stronger proof than simply an assertion. The honey-comb is made chiefly from honey; the bees have the power at will to change or convert the same into fat. The fat is exuded by the bees, and appears between the abdominal rings on the underside of the abdomen, and in the shape of thin, narrow ribbons of wax, and is then taken therefrom by the comb-builders and made into comb. That is the explanation given by the majority of practical bee-keepers and scientists of the present day. There are, however, a few who dispute the foregoing explanation in part; who claim that the bees have the power at will to change the honey into fat, but that while the fat is an oil, or in the liquid condition, the wax-producers being also the comb-builders, have also the power to disgorge the oil thru the mouth, or honey-tube, directly upon the edge of the cell, and that the wax-scales sometimes found between the abdominal rings are simply congregated oil or the refuse fat of the bee. Their claim is that no one has ever yet reported seeing an incomplete cell in a ragged or imperfect condition upon the edge, which would often be the case if the scales of wax were used instead of the oil in its construction.

"Honey is now generally thrown out of the comb, whether the comb be old or new, by a machine operated by centrifugal force, but it is an error to suppose that new comb is melted into wax as soon as the honey is thus extracted. As a rule, such comb is given back to the bees, so they can refill it with honey, and in good seasons as many as three, four, or even five times. Such comb, if cared for properly, may be thus used from year to year, and for a period of 10, 15, or 20 years.

"Oh, no; there is no such estimate among bee-keepers as one pound of honey to each pound of comb, nor *vice versa*. What you probably refer to, as 'estimated,' is that it takes about 20 pounds of honey to secrete wax enough to make a pound of comb, but that is one of the old and now obsolete estimates.—M. M. BALDRIDGE."

No. 11.—How to Get the Most Out of Yourself.

BY "OLD GRIMES."

If we were to solve the problem of how to get the most out of a horse, a yoke of oxen, or a steam-engine, we have books without number that will give full instructions respecting the course to pursue.

With some men—"the man with the hoe," for instance—the rule you would apply to the oxen would work well. Then there are some to whom the rules for the horse would apply, and others the steam-engine.

But I am supposed to be treating a higher development, found in the intelligent bee-keeper—an animal, of course, but combining the intelligence of all animals, a machine of all machines—a universe, something infinite. That is the reason why books can not compass the subject, and it would be far from the ability of Old Grimes to approach a thousandth part of the subject.

But in trying to get the most out of ourselves there are some thoughts perhaps worth repeating, that will find a responsive chord in some weary heart, and that will give hope for the toils of to-day, and to-morrow, and the next day.

Dear fellow worker, "Did you ever see angels in the opening flower, and hear angel songs in the night-winds? Of course, you did when you were a pure, confiding child. But, alas, the years come and go, the eye becomes dimmed with worldly aims, and the beautiful side of life is lost. The flower is ruthlessly trodden under foot, and the whispering evening winds caress an unresponsive and careworn brow." And who is to blame? Has the world been too much for you? Have self-seeking men abused your confidence? Are you in debt, and is the load heavy and grievous to bear? Well, you are to blame for placing this leaven into your life, but you can gain some consolation by teaching your children never to get into debt. Tell them that interest and the law to enforce its payment are as merciless as a buzz-saw. Has the pressure been so great that you see demons in your fellow men? Beware! the man who sees demons in others has the demon in himself.

Get back the faith of childhood, see the angel in the flowel, see the angel in your fellow man, and the angel will also abide with you.

Are you a church member? It is well. O, you are not? Well, I believe it is the proper thing, but in these days of toleration probably you and I believe that no church has an exclusive patent on the gate into heaven. Of course, you believe in Christ and His teachings. Every well-rounded man does. He workt upon a broad-gauge plan, and there is hope for you. Get the angel in our heart, and we are one with the Infinite.

Well, now, it seems to me I hear some one say, "Old Grimes is trying to preach a sermon." Oh, no, I am only pointing out the bed-rock upon which to build character—something that will bring the greatest results—faith that this is but the threshold to a grand future life. This faith brings content with our lot, peace of mind when the storm breaks, and more precious than silver and gold.

But if our soul is right how is it with the body? You certainly can not get much out of yourself if you abuse "the house you live in." Have you the blues? Then look at the stomach, the liver, and the kidneys, and work to get them right. You ask how? Well, there are many ways. There is the doctor with his pills, powders, and plasters. That is about the handiest, but not the best. Old Grimes and the boys keep themselves right thru physical culture. This cures the whole body. Of course, the exercise takes time, but it pays. If you go no further than the exercise of deep breathing, that pays. Not one person in ten breathes properly, and there is a world of health in the development of lung-power. The Grimes family are free from colds, malaria, and various ills, and all from bathing and massage every morning.

If you feel well—if the angel is in your heart—you will think well of every one you meet. Yes, you must love all animate creation, and send forth helpful thoughts.

If a bee-keeper comes to you for information do not be churlish and unduly secretive, for the seeker after knowledge, if bent upon gaining it, will find it somewhere else, and he will think better of the man who gives it, and not much of the man who withholds. Remember that the man who freely imparts information with word or pen receives more than he gives.

Don't cross bridges until you come to them. Ten chances to one there is no bridge to cross, and the worry has been useless. Worry brings on disease and premature old age; it drives out noble thoughts, shrivels, and kills.

To get the most out of himself the bee-keeper should saturate himself with bee-keeping lore. When Old Grimes was a boy books on bee-culture were scarce, and of journals there were none. But at present there is no excuse for ignorance on any feature of bee-keeping. Books and papers are plentiful, and one paper you can tie to with confidence that it will benefit you, is the "old reliable" American Bee Journal.

If a book or paper is purchast it should be read. How do you read a paper, anyway? While your eyes are on the page is your mind on neighbor Jones' high-stepping team of horses? Or do you just look at the headings and then throw down the paper and think there is nothing in it that will hold your thoughts?

Oh, no, friend, the nut is not worth much unless the meat is carefully pickt out and digested. And, yes, there are bee-men who will not even crack the nut, that is, the paper is thrown aside without even removing the wrapper. Such persons may win success, but the yare not up-to-date. Their knowledge comes to them by reflection from some brighter luminary in their neighborhoood. Yes, friend, it is far better to be a sun than a moon—very bright and up-to-date.

Now, there are a number of thoughts crowding down to my pen-point to get expression, but they would better be checkt, and left to be exprest at some future time, or exprest not at all, for here we have the whole thing in a nutshell:

"Let each man think himself an act of God,
His mind a thought, his life a breath of God;
And let each try, by great thoughts and good deeds,
To show the most of Heaven he hath in him."

Managing Late Swarms—Partly Filled Sections.

BY G. M. DOOLITTLE.

As soon as a swarm is seen issuing I take six frames filled with foundation, and two wide frames of sections, putting the same in a box or hive which is convenient to carry; and when I arrive at the hive from which the swarm is coming, I take the frames from the box and place them down by the hive. As soon as the swarm has mostly ceast coming out the hive is opened, and all of the frames of brood and honey, with the adhering bees, taken out and placed in the box, after which the two wide frames of sections are placed, one at each side of the hive, and the six brood-frames put between them. The hive is now arranged and closed.

"Will the bees stay on these combs all right in that open box? I should think they would fly out after the swarm."

There is no trouble about the bees leaving the combs. If the weather is warm, and there are many bees on the frames, about a third of them are shaken off in front of the hive, when the box is placed in the shade a rod or two away, so the bees from the swarm will not find it when being hived, which is the next thing to do; hiving them in the rearranged hive on the old stand.

"Is there no danger of having too few bees on these combs should the weather be cold?"

If the weather is cool, or but a few bees are on the combs of brood, omit the shaking off, for it will want all of the bees to keep the brood in good condition.

"Yes, but what do you do with these combs of bees and brood?"

They are taken to a hive which has been placed where I wish a colony to stand, and arranged in it the same as they were in the old hive; and after tucking them up all warm and nice they are left till the next morning. At any time during the forenoon of the next day they are given a virgin queen, or a queen-cell just ready to hatch, and in this way we have no trouble with after-swarming, for the bees feel so poor at this time that they are glad of anything in the shape of a queen, the flying bees that were taken with the combs of brood having gone back to the old stand with the swarm.

"Must this giving of the queen be done at just such a time? Why not wait three or four days?"

If the delay is longer than 18 hours, this formed colony often becomes so strengthened by the rapidly hatching brood that they will destroy the queen-cell, or kill the virgin queen, and after-swarming will be the result.

"Would it not be well to give this formed colony a laying queen?"

Do not give them a laying queen unless you wish a prime swarm from the colony in from 18 days to three weeks, for the bees will surely use her for such swarming if the honey harvest continues for that length of time.

"What do you claim for this plan over the old one used by the many?"

By this plan I get a powerful colony on the old stand, which will do as much in the sections, if not more, than they would if they had not swarmed; for the *new* swarm will work with a vigor rarely known to bees under any other circumstances.

"Do you do anything further with the colony made from the combs of brood?

In ten days, if the honey harvest continues, sections are given to this colony, which has rapidly increast to such from the combs of brood carried in the box; and as the young queen has now commenced to lay, the bees will at once go into the sections, often giving a fair yield of honey; yet the main yield will come from the new swarm, as they have at least one-third more bees than they would had they been hived on a new stand, all of the field-bees returning to this place.

"Do the bees returning from the combs of brood and the fields catch the inspiration of the swarm?"

Yes, they all work with a will together; and as the harvest is at its hight also, and the brood-chamber contracted, the storing of honey goes on in the sections at a rapid pace, such colonies often giving from 50 to 100 pounds of "fancy" honey to their keeper, while, if hived on the old plan, little save partly filled or empty sections would be the result.

If the hive is left as we now have it until winter the bees are not liable to have sufficient stores; so when the harvest of white honey begins to draw to a close, the sections are taken from the sides, which were placed there at the time of hiving (if they have not been taken out filled before), and the combs necessary to fill out the hive are used to take their places. In this way the bees will fill these last for winter; and should a fall yield occur they will often have some extra stores to spare to help out any weak colony that may be short.

"What is done with the partly filled sections which may thus come from the sides?"

These are taken from the wide frames and placed with those which are on top, when the bee will finish them, if the honey season does not drop off too suddenly; or they can be kept and used for "bait" sections the following year.

"How are these best kept over so that they can be nice and clean, ready for use when wanted?"

There are various ways, such as extracting the honey from them and then placing a lot over some strong colony for the bees to lick the remaining honey off, when they are stored away in a clean, dry place till wanted. Or they can be uncapt and set over some colony short of stores till the honey is carried below. But I generally use the plan given by Dr. Miller, I think, of setting the whole lot in the cellar or some dark room, when on a pleasant day the door is opened, giving the bees of the apiary access to them, when, at night, I find them all cleaned up, with very few combs gnawed, provided we give the bees access to them at the right time, so that night comes at about the time the bees have the honey carried away.—Gleanings in Bee-Culture.

How a Swarm Was Lost—A Confession and Warning.

BY HARRY LATHROP.

I WANT to tell about a blunder I made the other day at the Browntown yard, whereby I lost a large swarm of bees, the result of over-confidence, growing out of a long experience with clipt queens. For years we have not known of a swarm leaving our yards for the woods; but to the woods away went the swarm above mentioned, right before the gaping, astonisht bee-keeper. It was thus:

The Browntown yard is run, to all practical purposes, as an out-yard. I have a helper who works there during the forenoon, and I go down on the train at noon and remain on duty until evening. My home, be it known, is at the Monroe yard, eight miles east, at present. It was just 3:15 p.m., and I was thinking that all swarming was over for the day, when out came No. 46. They were strong, and were working in two supers, the top one of which was full of nice, white honey nearly ready to come off. As my custom is, I pickt up a queen-cage and went over to the hive and watcht for the queen, but I did not see her. I supposed that perhaps she had failed to come out, as is often the case, and that the bees would soon come back. But as they clustered and hung quietly in a tree near by, I thought I would better investigate a little. I first turned to the record of No. 46 in the book; it read, "April 28, queen clipt, probably '98."

I next went to the hive, thinking that perhaps they had superseded the old queen, and had swarmed out with a newly hatcht virgin. But wen I went into the brood-chamber I found it in a normal condition, but full of brood in all stages, including newly-laid eggs. Now, I was positive that the queen of this hive was a clipt queen when the record was made in the spring. So I concluded that the old queen was yet present, and knowing that she could not fly I expected that the bees would hang in the tree awhile, then uncluster and go back to the hive.

I was busy in another part of the yard (when I ought to have been getting that swarm down), and after awhile I heard something. Looking up I saw my swarm high in the air, and starting for some eastern point. No use trying to stop them—might just as well save your strength and time on as hot a day as that was. I stood there disgusted and ashamed of myself for such blundering work. If one of my men had done so—well, there was no one to scold me. A woman in a neighboring house came out with a tin pan and gave it a few taps, but saw that it was useless work trying to stop those bees. She called, asking if they were mine. Mine! Alas, they were once, but now they belong to whoever may find them. They are gone, and so is the five to ten dollars worth of fancy comb honey they would have produced had I saved them. Let them go.

But why did they go? I will tell you what I think. That colony had superseded their old queen rather early—soon after the record was made; the young queen had mated and gone on laying without my discovery of the fact. When I saw them hanging so contentedly in the tree I should have taken no chances, altho I have seen them cluster and hang quite awhile, the queen in the meantime being caged at the entrance of a prepared hive on the old stand ready for the return of the swarm.

Working as I have with clipt queens so long, and having such an easy time of it, made me too confident, and you know on a hot day a fellow doesn't like to climb trees to get swarms. But the fellow who neglects to do so when he doesn't know he knows, ought to have a club.—Wisconsin Agriculturist. Green Co., Wis.

York's Honey Calendar for 1900 is a 16-page pamphlet especially gotten up to create a demand for honey among should-be consumers. The forepart was written by Dr. C. C. Miller, and is devoted to general information concerning honey. The latter part consists of recipes for use in cooking and as a medicine. It will be found to be a very effective helper in working up a home market for honey. We furnish them, postpaid, at these prices: A sample free; 25 copies for 30 cents; 50 for 50 cents; 100 for 90 cents; 250 for $2.00; 500 for $3.50. For 25 cents extra we will print your name and address on the front page, when ordering 100 or more copies at these prices.

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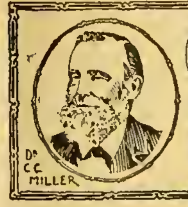
The Premiums offered this week are well worth working for. Look at them.



QUESTIONS AND ANSWERS.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Queen With a Leg Off.

A queen sent me arrived in a feeble condition, with one leg torn off. Will such a queen be of any value if successfully introduced? ILLINOIS.

ANSWER.—A queen so badly maltreated by the bees as to have her leg torn off might do good work afterward, but the chances would be against it. You do not say so, but I suppose the ill treatment was received in the attempt to introduce her, for a queen would hardly receive such treatment from her own bees in the cage.

Altho I would not think it proper to send out a queen lacking a leg, yet I have had several such queens that did excellent work. The leg, however, was probably lacking from birth, and was not torn off by the bees in these cases.

A Queen Question.

I received a Dr. Miller queen and succeeded in introducing her into a colony which had just swarmed four days before. I pulled down all queen-cells I found, snd more on Friday last. The queen never stopt piping from the time she was releast until to-day, when the colony swarmed and went away. I opened the hive and found some worker and drone brood about hatcht, and two queen-cells not sealed, with the larvæ in them; also one cell sealed, but not an egg or sign of young brood of any description other than the two queen-cells. Did the queen not lay any, or did the bees destroy her eggs? I feel sore about losing the queen, as I intended to divide the colony to-day. ONTARIO.

ANSWER.—It was not the introduced queen that did the piping and left with the swarm, but a virgin queen that was free in the hive. The queen sent you could not have gone off with the swarm, for both wings on one side were clipt so she could not fly. It is a very unusual thing for a second swarm to leave 20 days after the prime swarm; and in this case it looks a little as if there were two factions in the hive, one insisting that the stranger should rule, and the other insisting that the virgin should be mistress, the strife delaying the swarming. It is possible that the introduced queen may have been allowed to lay a few eggs, for it sometimes occurs that a queen is allowed to lay a very few eggs, perhaps in queen-cells, and is still rejected.

Perhaps Bee-Paralysis.

I have one colony of bees that in June, 1899, cast a good-sized swarm, which I hived, and it did and is doing all right, but the parent colony, after the young queen got to laying, and the young bees had hatcht out and commenced playing, there would be scores of bees that would come out on the alighting-board, rub their abdomens and wings with their hind legs, but would be unable to take a flight, and so they would crawl away from the hive, continuing to make the effort to fly, but could not; and the same was true of them all last spring and summer. These bees come out at the time the young bees take their play-spell. I can not see any difference between them and those that can fly.

What is the probable reason why they can not fly? Is it possible that the queen may be at fault in some way? I can not think that they are old, worn-out bees coming out to die, because their wings are not ragged and broken. Some of them seem to be somewhat less than others.

Can you tell me a remedy? The colony is not any stronger now than it ought to have been the first of May, if as strong.

Perhaps I should have said that there have been drones until the last three or four days, and they are too feeble to fly. OHIO.

ANSWER.—I don't know, unless it be a case of bee-paralysis. In that case there should be seen a trembling of the diseased bees, some of them having a shiny-black appearance. If paralysis is the trouble, no satisfactory remedy has yet been found. As far north as Onio, however, it is not likely to be very bad, and will likely disappear of itself. In the South it is a severe scourge.

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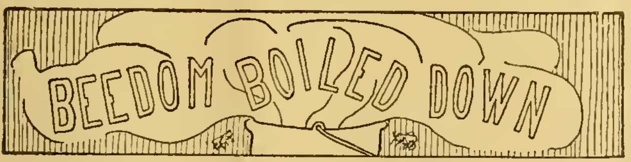
Bare-Headed Bees—Feeding Back.

1. Some time ago I received a queen from one of the queen-breeders, and when looking thru the hive in which I introduced her I found one or more frames with brood uneven, some drawn out farther than level, and not capt; some looks dark. What is the trouble? My opinion is that they haven't enough bees to nurse the brood.

2. Do you think it pays to feed to finish sections nearly all capt? I have a number of supers nearly finisht of basswood honey, and have some colonies I run for extracted honey, which I was thinking of using to feed to finish with now, as I don't expect honey enough from the fields to finish until buckwheat. IOWA.

ANSWERS.—1. It is a case of "bare-headed bees." The young bees are not sealed over at all, but they hatch out all right, and no harm comes from it. It is a matter of frequent occurrence, and it is uncertain what is the cause, but I suspect it is caused by worms eating the capping.

2. A few bee-keepers think they can profitably feed extracted honey to have sections finisht, but most of those who have tried it think it does not pay.



Should the Public Be Encouraged to Keep Bees?—In answer to this question, J. B. Hall says in the Canadian Bee Journal:

"Yes—no. I would like to encourage all those that have natural tact to keep bees, and are in a locality where it would pay them to keep them, but indiscriminately to advise every one to keep bees for a living would be to do a great injury. We should be very cautious how we encourage people to keep bees. I may be a rather peculiar temperament; I think a bee-keeper, like a fiddler, is born. If a man can look after ten thousand little things, and do everything right, and do them at the proper time and in the proper way, and is desirous of keeping bees, and is willing to live in a new country, encourage him."

Dr. Miller's "Goback" Sections.—While I was visiting Dr. C. C. Miller at his home, he and his sister Emma quite incidentally made reference to their "goback" colonies and "goback sections."

It seems that, in taking off their comb honey, they remove the supers when most of the sections are completed. These are taken to the house, and the filled sections are set to one side, to be scraped and cased; but the unfinisht ones "go back" into the same or another super. There may be one or a dozen or perhaps a hundred or so of supers with partly filled sections, and these are all designated as "gobacks." They are either placed on top of other supers that are being built out from foundation, or upon colonies that seem to show a special aptitude for finishing up gobacks.

In looking over Dr. Miller's hive-record book I found there were certain colonies that had produced so many filled sections and finisht up so many gobacks. These gobacks are all placed on the hives *before the honey-flow ceases;* so when the season is over, Dr. Miller has nothing but No. 1 filled sections without any unfinisht ones, or practically none, to be extracted, to be sold for less money, or to be filled out after the honey-flow by feeding back—a wasteful, laborious, and disagreeable job, because all has to be done during the robbing season.

Of course, there is nothing particularly new about placing unfinisht sections on the hives, to be filled out; but, if I mistake not, the general practice is to place such sections on the colonies *after* the honey-flow.

Another interesting fact to me was that some colonies are much better for finishing gobacks than for filling sections from the foundation—that is to say, when work is apparently *started* or almost finisht, those colonies show a special aptitude for *completing* work, but they are not as much inclined to *start* on raw foundation as some other colonies in the yard.

It seems that the Miller family have a way of finding out the peculiarities of each colony, and those peculiarities are recorded in the record-book; and if the queen is still in the hive next year, that queen and her bees are devoted to a special kind of work—it may be to filling out gobacks, to running for extracted honey, if the honey is travel-stained, water-soakt, or discolored, or to producing comb honey from foundation at the start. The colony that is good both at producing honey and finishing gobacks is given light work, and its queen is used for a breeder.

Emma also gave me an interesting fact; and that was, when one has sections that from any cause have tiny drops of honey oozing from the cappings, to put them in a super, place the super on a hive for a few hours, when the sections will all be lickt up clean and nice. It appears that the Millerites so manage that their crop shall be *practically all of it* No. 1 honey; and yet I suspect that over half of the producers of comb honey have anywhere from 10 to 25 percent of it No. 2. A word to the wise is sufficient.—Gleanings in Bee-Culture.

A Swarm of Bees on the March.—I thought it probable that the following may possess some interest for you or your readers: When cycling this morning on my usual professional "round" I was not a little astonisht to see a swarm of bees *walking* in procession, like a long, brown snake, along the narrow footpath bordering the main road from here to Newark. The resemblance to what one could suppose Lord Robert's army on the march would appear like at once struck me. There were some few bees flying ahead, representing the "cavalry scouts;" then came the main army in serried ranks, extending to a length of several yards, all marching on foot—these were the "infantry," of course; and, finally, separated from the main body by about two feet, but with "scouts" passing to and fro, came a considerable cluster forming the indispensable "rear-guard." A man working on the road informed me that the whole swarm had thus advanced about 20 yards since he had first observed them some time before.

I at once rode back to the house of a bee-keeper I knew who lived near, and failing to obtain a skep, got a box of shallow frames with comb built out and an old newspaper. Returning, I placed this "Pretoria" directly in front of the advancing army, covering the box with the newspaper and propping it up in front with a stone. I then continued my journey, and on my return found, as I had expected, that "the army" had "taken possession of the town," and that "all was quiet." This evening I drove over and took possession of the swarm, which I have now safely establisht in my apiary at home. Knowing, as we bee-keepers do, the loyalty of bees to their queen, it almost lookt as if these little wanderers had caught up the patriotic spirit of the day. Anyway, I have seen many swarms, but this is the first time I ever saw one *walk*.—(DR.) PERCY SHARP.

[The above is not only interesting, but our correspondent's simile is a very happy one, there being little doubt that the queen's inability to fly kept the bees loyally marching on foot rather than take wing and desert her.—EDS.]—British Bee Journal.

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Please send us Names of Bee-Keepers who do not now get the American Bee Journal, and we will send them sample copies. Then you can very likely afterward get their subscriptions, for which work we offer valuable premiums in nearly every number of this journal. You can aid much by sending in the names and addresses when writing us on other matters.

AMERICAN
ESTABLISHED IN 1861 OLDEST BEE-PAPER IN AMERICA
BEE JOURNAL.
DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS

PUBLISHT WEEKLY BY
GEORGE W. YORK & COMPANY,
118 Michigan Street, Chicago, Ill.

[Entered at the Post-Office at Chicago as Second-Class Mail-Matter.]

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LEADING CONTRIBUTORS:
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F. A. SNELL, R. C. AIKIN, "OLD GRIMES."

IMPORTANT NOTICES:

The Subscription Price of this journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "Dec00" on your label shows that it is paid to the end of December, 1900.

Subscription Receipts.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows you that the money has been received and duly credited.

Advertising Rates will be given upon application.

VOL. 40. AUGUST 2, 1900. NO. 31.

EDITORIAL COMMENTS

NOTE—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

The Chicago Convention Program appears on the next page. It will be noticed that the stereopticon will be a prominent feature at this convention; that both Messrs. Hutchinson and Root will throw on the screen pictures they have taken of the bee-keepers and the apiaries they have visited on their travels over the country. A powerful electric light and a fine stereopticon will be used. Indeed, it will be practically an apiarian trip over the whole United States, and even a run over into England.

This picture-and-travel feature of the next convention will be something unusually fine and attractive, and will be well worth going a long way to see. And, then, to meet the old-time friends, and form many new-time friendships—can such pleasures be valued in dollars and cents?

The Honey Crop for 1900.—Reports concerning the honey season and crop are always so very conflicting that it is practically impossible to get even a fair estimate of the quantity of honey harvested thruout the country. But, as we were recently told by one of the oldest and most experienced honey commission men, there will likely be plenty of honey this year as in other years. He said he has not known the year in the past twenty, that he could not get all the honey he wanted. There is honey somewhere in this great country of ours every year; and we believe that the bee-keeper who sells his crop early, and at a fair price, will be the gainer this year.

"A fair price" may be a rather indefinite statement. Perhaps we should say that whenever the bee-keeper can realize a *net* wholesale price of say 14 cents a pound for the best grade of white comb honey he would better take it; and 7 cents for best white extracted honey. Prices on other grades should be in proportion.

Now, understand, we are not advising any one to sell at these prices, but we will simply say that if we had a quantity of honey to sell, and could get those prices net this year, we should count ourselves very fortunate indeed.

Editor Root had the following to say in reference to the honey-crop outlook, in Gleanings in Bee-Culture for July 15:

> Reports are still coming in from all sections of the country; and so far the revised outlook stands about as follows:
>
> Michigan seems to be having a good honey-flow—at least I do not remember seeing an unfavorable report, while we have on file a large number of good ones. Colorado, Arizona, and other of the Western States depending upon alfalfa, will have their usual honey-flows. In California the reports range all the way from one-third or one-half a crop down to total failures. In New York the reports are unfavorable as a rule—no clover or basswood to speak of. From Pennsylvania there are a few favorable reports. From New Jersey come quite a number of good reports. Reports from Florida vary greatly. Some show a third of a crop; others a total failure. Texas will have a good deal of honey from some sections, and almost none from others. Some of the Southern States will have very little honey. Missouri, that had a crop of honey all over the State last year, has nothing to report this year to speak of. The season in Wisconsin is practically a total failure; a little better in Minnesota. In Iowa and Illinois it is fair to poor. Dr. C. C. Miller is getting his usual crop of honey; or at least he reports he is doing as well as he did last year; but he does not know where the honey is coming from.
>
> Notwithstanding the season seems to be generally unfavorable, we have a large number of good reports from all over the country.
>
> So far no large amount of honey has found its way to the centers of honey distribution. At present it is a little too early; but there will be considerable alfalfa honey this year to dispose of, both comb and extracted; a very scant supply of ordinary white clover, and a light supply of red clover and of basswood.
>
> Taking it all in all, the supply of white clover honey and basswood will be very light this year. Honey, if any is sold at all, will be principally alfalfa, with some mountain sage from California, perhaps. There will be on the market, as usual, Southern honeys; and, in all probability, from the large amount of warm rains that seem to be general over the country, there will be a good fall crop; that is to say, the bees will probably gather enough from fall flowers to fill their hives and save feeding. If they will do this much, bee-keepers will probably feel fortunate.

A Warning to Honey-Shippers.—While it may not be as necessary now as it was several years ago, to warn bee-keepers to be careful to whom they ship honey, yet it is well enough to permit a gentle reminder. It is fast coming to be the proper thing to agree on a cash price before the honey leaves the producer for the city buyer. It may not be paid for in advance, however, but in case it is not, the shipper should exercise great care as to the financial responsibility of the buyer.

There may yet be a few concerns who think they can persuade bee-keepers to say good-by to their honey, by sending out eloquent letters in which they claim to be about "the whole thing" in their particular city, and give every assurance that they can realize a cent or two above the market price for all the honey that bee-keepers could possibly ship them. Don't be fooled by any such "bait." It is better to donate your honey to your good neighbors rather than to risk it in the hands of such over-confident concerns.

Verily, what shall it profit a bee-keeper if he shall produce a large crop of honey, and then lose it thru some fraudulent city dealer?

Chicago Convention Program.—The following is the program of the 31st annual convention of the National Bee-Keepers' Association, to be held at Chicago, Ill., Tuesday, Wednesday, and Thursday, Aug. 28, 29, and 30, 1900, the sessions to be held in Wellington Hall, 70 North Clark St.:

FIRST SESSION—TUESDAY EVENING.

Call to order at 7 o'clock.
Song—Dr. C. C. Miller, of Illinois.
"How to Sell Honey"—S. A. Niver, of New York.
"Keeping Bees in a City"—L. Kreutzinger, of Illinois.
Question-Box.

SECOND SESSION—WEDNESDAY MORNING, 9:30.

Song.
Invocation.
President's Address—E. R. Root, of Ohio.
"Queen-Rearing by the Doolittle Method"—Mrs. H. G. Acklin, of Minnesota.
Question-Box.

THIRD SESSION—WEDNESDAY AFTERNOON, 1:30.

Song.
"Bee-Keepers' Rights and Protection by Law"—Herman F. Moore, of Illinois.
"Trials of the Commission Man"—R. A. Burnett, of Illinois.
Question-Box.

FOURTH SESSION—WEDNESDAY EVENING, 7:30.

"Breeding for Longer-Tongued Bees"—J. M. Rankin, of the Michigan Experiment Station.
"Bee-Keepers I Have Met and Apiaries I Have Visited"—E. R. Root, of Ohio, assisted by Dr. C. C. Miller, Dr. A. B. Mason, E. T. Abbott, and others. Illustrated by a stereopticon.

FIFTH SESSION—THURSDAY MORNING, 9:30.

Song.
"Various Forms of Diseases Among Bees; Cause and Cure"—Dr. Wm. R. Howard, of Texas.
Report of the General Manager—Hon. Eugene Secor, of Iowa.
"Pure-Food Legislation"—Rev. Emerson T. Abbott, of Missouri.
Question-Box.

SIXTH SESSION—THURSDAY AFTERNOON, 1:30.

Song.
"Chemistry of Honey and How to Detect Its Adulteration"—Thos. Wm. Cowan, of California.
"How to Ship Honey to Market, and in What Kind of Packages"—George W. York, of Illinois.
Question-Box.

SEVENTH SESSION—THURSDAY EVENING, 7:30

"Co-operative Organization Among Bee-Keepers"—R. C. Aikin, of Colorado.
"My Trip Thru Wisconsin and Minnesota"—W. Z. Hutchinson, of Michigan. Illustrated by a stereopticon.
Unfinisht Business.
Adjournment.

One prominent feature of the next convention will be the stereopticon work. Messrs. Root and Hutchinson, with a powerful stereopticon, will project upon the screen some photos they have taken of apiaries they have visited in various portions of the United States. The convention will be held in Wellington Hall, 70 North Clark Street, about a block and a half from the office of the American Bee Journal, and about five blocks directly north of the Court-house. The hotel at which delegates may secure lodging is the Revere House, about half a block from the convention hall. The rate for lodging will be 50 cents per night, and the proprietor has assured Mr. York that good beds are provided, but that several will have to occupy the same room. But when any one desires a room with a single bed, the charge will be $2.00 per night. If two men wish to take a single room in that way they can do it, sharing the expense between them. Some G. A. R. people will pay 75 cents per night for a single bed, so bee-keepers are specially favored at 50 cents. The hotel is almost within a stone's throw of the convention hall, and right near the hall are first-class restaurants, where meals can be secured at reasonable rates.

It is a little too early yet to announce what the railroad rates will be during G. A. R. week; but it is assumed that they will be low, probably a cent a mile each. Chicago is a central point, and there will undoubtedly be a large attendance; and, considering the attractions, it is earnestly hoped that bee-keepers will turn out in good, strong force. E. R. ROOT, *President.*

DR. A. B. MASON, *Secretary.*

It will be noticed in this program ample time is allowed for the question-box. This is usually the best feature of a bee-keepers' convention, particularly if Dr. Miller holds the box and keeps the people talking. You see, it gives everybody who has had experience such a good chance to tell what they know, especially when there are so many questions to which Dr. Miller says he has to answer "I don't know."

We are looking forward to a large gathering of bee-keepers, and a royal time for all who attend. As there are something like 200 bee-keepers in this county alone, there would be a fair sized convention if only they came. But we are hearing nearly every day from some far-away bee-keeper who expects to be here.

There will be two "grand armies" in Chicago, then—one of good ex-soldiers and the other of ex(tra)-good bee-keepers.

The Weekly Budget

MR. J. T. CALVERT, of The A. I. Root Co., was delayed about two weeks in starting for Europe, on account of a disastrous fire at Hoboken, which, destroyed ships and shipping interests at that point. He sailed July 18th from Boston.

* * * * *

MR. LOUIS SCHOLL, secretary of the Central Texas Bee-Keepers' Association, writes us that their recent convention, held at Hutto, July 12 and 13, "was one of the best meetings" of their State, 115 persons being present, representing 5,808 colonies of bees. We have attended national conventions that did not number as many in attendance. Texas seems to be coming up.

We expect to begin publishing a report of the above meeting next week.

* * * * *

THE WISCONSIN APIARY shown on the first page this week is that of Mr. and Mrs. F. P. White. The hives are 8-frame dovetailed Mrs. White is near the center of the end of the apiary, and Mr. White near the end. They started with two colonies in 1894, and increast to 89 in 1899.

Mrs. White was taken ill a year ago last April, and was advised by the family doctor to go to Chicago for an operation, which we regret to record proved unsuccessful. She remained at the hospital for two months, then returned home, and lived nine weeks, up to which time she was as enthusiastic over the bee-work as any one could be, and took a great interest in it. In a letter from Mr. White, he says: "She was a tender-hearted, loving wife, and a thoughtful sister and daughter."

* * * * *

MR. HERMAN F. MOORE, secretary of the Chicago Bee-Keepers' Association, lives about 14 miles northwest of Chicago. He has nearly 30 colonies of bees, which he is running for extracted honey. We called on him early in July. He was just beginning to extract. Some colonies occupied three 10-frame Langstroth hive-bodies, with much brood in all three stories. He allows the queen free access thruout the hive, and extracts from frames of honey that are practically all filled and sealed, taking them out of any part of the hive where they may be. His principal source of honey is sweet clover.

Mr. Moore has a fine city retail trade, which he looks after carefully all the year. He is an energetic young man, educated as a lawyer, but loving bees and outdoor life more than his legal profession, he devotes his whole time to bee-keeping, and to keeping his many customers sweet.

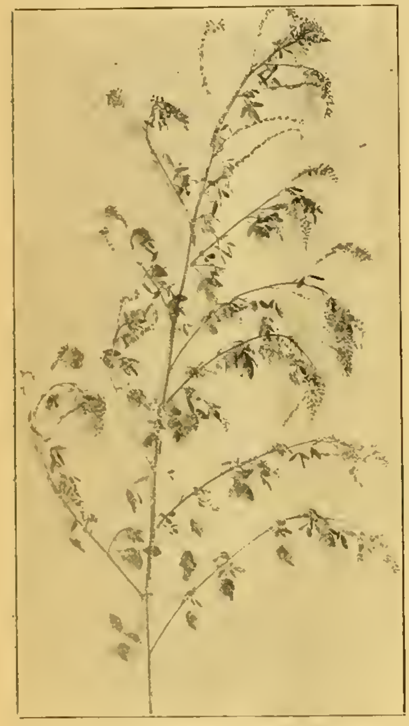
Yellow Sweet Clover Seed

WE HAVE IT AT LAST!

We have finally succeeded in getting a SMALL quantity of the seed of the YELLOW variety of sweet clover. This kind blooms from two to four weeks earlier than the common or white variety of sweet clover. It also grows much shorter, only about two feet in hight. It is as much visited by the bees as the white, and usually comes into bloom ahead of white clover and basswood. We offer the seed as a premium

A QUARTER POUND FOR SENDING ONE NEW SUBSCRIPTION.

So long as it lasts, we will mail a quarter pound of the seed to a regular paid-up subscriber who sends us ONE NEW subscriber for the American Bee Journal one year, with $1.00; or ¼ pound by mail for 30 cents.



Yellow Sweet Clover in Bloom.

We have been trying for years to secure this seed, and finally succeeded in getting it. It is new seed, gathered last season by an old personal friend of ours, so we know it is all right. But we have only a small supply. When nearly out we will mention it.

GEORGE W. YORK & CO.,
118 Michigan St., - CHICAGO, ILL.

Belgian Hares

Pedigreed and Unpedigreed Hares, any age, for sale.

J. S. MESSICK,
LIBERTY, - MISSOURI.
29A4t Please mention the Bee Journal.

If You Want Bees

That will just "roll" in the honey, try **Moore's Strain of Italians,** the result of 21 years of careful breeding. They have become noted for honey-gathering, whiteness of cappings, etc., thruout the United States and Canada.

Warranted Queens, 75c each; 6 for $4 00; 12 for $7.50. Select warranted, $1.00 each; 6 for $5.00; 12 for $9.00. Strong 3-frame Nucleus with warranted Queen, $2.50. Safe arrival and satisfaction guaranteed. Circular free.

27Dtf **J. P. MOORE** (lock box 1) **Morgan, Ky.**
Please mention Bee Journal when writing.

GENERAL ITEMS

The Unstriven Fail.

Build as thou wilt, and as thy light is given;
Then, if at last the airy structure fall,
Dissolve, and vanish, take to thyself no shame;
They fail, and they alone, who have not striven.
—T. B. ALDRICH.

Best Prospect in Four Years.

Bees are storing honey very fast. The main honey-flow has just set in, but we are having considerable rain. My bees are in fine shape to gather the sweets. The prospect is better than it has been in four years. We had considerable swarming thru April, May and June, but I never saw swarms build up faster. I had one albino colony 15 days after casting the prime swarm to cast its first after-swarm, then five days later another after-swarm, making 20 days between the prime swarm and the last after-swarm.

J. R. SCOTT.

Lamar Co., Tex., July 16.

Hoping for a Fall Crop.

I have 29 colonies of very fine Italians. The season has been too wet, so no surplus up to this date. I am hoping for a fall crop from heartsease and Spanish-needle, as the creek bottoms could not be cultivated. I am working for section honey. A. S. GRIFFITH.

Saint Clair Co., Ill., July 24.

Some Interesting Cuban Notes.

Several years ago I was a subscriber to the most valuable American Bee Journal, which I counted as a most excellent aid to bee-keeping, and quite often short articles from my pen on bees and bee-keeping in Louisiana appeared in it; but changes in position of life caused me to drop it. At times I did well with my bees, but only after many failures, and many valuable lessons of experience. It has been over two years since I have had anything to do with the sharp little "critters," but I never lose an opportunity to see a bee-hive or to try to learn something about them.

Cuba is an excellent place in which to produce honey. I saw one place here, out in the country, where there were about 150 hives, apparently 10-frame Langstroth, all neatly painted, and each one on a neat stand, with a different device on the front of each. The majority of them were two or three stories, and many of them going up to four and a half. They were placed in an excellent location, and amid a large grove of palms and bananas, and presented a beautiful sight from the train.

There are many beautiful wild flowers here that bloom and give place to others, thus furnishing a supply nearly all the year around.

I was speaking with a commission merchant here on the outlook for honey, and he said that it appeared to be very good. He sells on commission and said that, as a rule, extracted honey brought 55 or 60 cents (Spanish silver) here at wholesale—about 45 or

Sharples Cream Separators: Profitable Dairying

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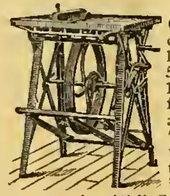

Read what J. I. PARENT, of Charlton, N. Y., says: "We cut with one of your Combined Machines, last winter, 50 chaff hives with 7-in. cap, 100 honey racks, 500 brood-frames, 2,000 honey boxes, and a great deal of other work. This winter we have double the amount of bee-hives, etc., to make, and we expect to do it with this Saw. It will do all you say it will." Catalog and price-list free.

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Tells all about Bees in California. The yields and Price of Honey; the Pasturage and Nectar-Producing Plants: the Bee-Ranches and how they are conducted. In fact the entire field is fully covered by an expert bee-man. Besides this the paper also tells you all about California Agriculture and Horticulture. $1.00 per year; 6 months, 50 cents. Sample copies, 10 cents.

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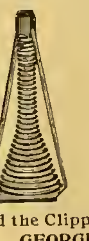

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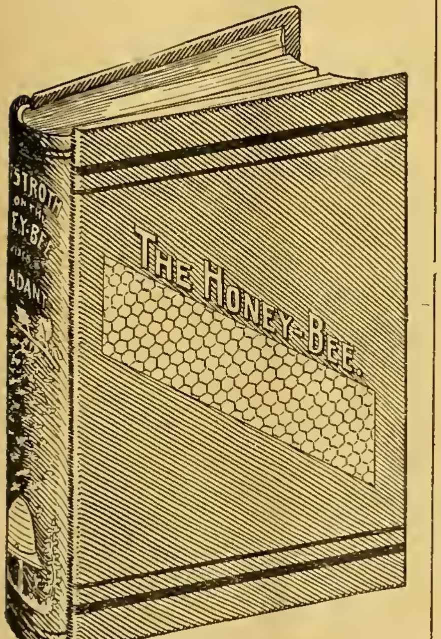
This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains over 500 pages, being revised by those large, practical bee-keepers, so well-known to all the readers of the American Bee Journal—Chas. Dadant & Son. Each subject is clearly and thoroly explained, so that by following the instructions of this book one cannot fail to be wonderfully helpt on the way to success with bees.

The book we mail for $1.25, or club it with the American Bee Journal for one year—both for $1.75; or, we will mail it as a premium for sending us THREE NEW subscribers to the Bee Journal for one year, with $3.00.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Thin Flat-Bottom Foundation
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Queens UNTESTED ITALIAN, 50 cents each; tested, $1 each. Queens large, yellow and prolific. Circular free.
21Atf Address, **E. W. HAAG, Canton, Ohio.**
Please mention Bee Journal when writing

48 cents in American gold—and at times was very plentiful. He also told me that he was trying to have improved hives, and material for the same, brought into the country free of duty.

In this climate one may wear summer clothing all the year around, but in the cool nights of January and February one needs blankets to sleep under, the same as at home.

This is a great place for high prices. Vegetables average from 8 to 10 cents per pound; bread, 6 to 8 cents; meat, from 20 to 45 cents; chickens, from 90 cents to $1.10; eggs, from 40 to 72 cents per dozen; and nearly all other commodities in like prices.

The country is rather hilly, with few levels between, and the land very fertile as well as of all colors. I have seen on a hillside land from coal black to clear white, with all the shades of brown, red, blue and yellow between, and this in an acre, too.

Milk is very high here, and it is almost impossible to get it pure, even tho they drive the cows around the streets and milk them at your door; and in addition, charge you from 60 to 90 cents for a gallon.

Nearly all the people here have the fever of "manana," and many of the Americans who have been here since the war have it, too. The people, as a rule, are not overclean—I mean the natives. I have seen them very often use a wash-basin to wash their head, face and socks in, and then (using other water, of course) take the same basin and have one sponge and some water for washing table-cloths, chairs and paved yards. Their kitchens are right alongside their cesspools, and they very often leave their dishes from one meal to another before washing them. While they cook they nearly always have a cigarette in their mouths. It is a common thing to see little tots without any clothing other than nature gave them, with a stump of a cigarette or cigar in their mouths; and, in fact, whole families smoke, even to the old women. JAMES B. DRURY.

Province of Habana, Cuba, July 4.

Favors the "Fence"—Fair Crop.

I have 13 colonies of bees. The "fence" system of procuring comb honey is the best extant. I have tried nearly every other kind, including tin separators, but the "fence" beats them all.

The honey crop here is fair to middling. Bees now are working white and sweet clover, the latter abounding in great profusion. D. B. GIVLER.

Dupage Co., Ill., July 24.

Plain Sections and Fences.

In reply to R. V. Goss' question, on page 445, whether or not more honey can be produced with plain sections and fences than with the old-style sections, I would say that we have been using both styles for two years, and positively can not tell any difference, so far, in the quantity of honey stored, tho possibly the bees will fill them a little better than the old-style section. But we find one serious objection to the plain section and fences, that is, the bees will build more bur-combs than in the old-style sections, even if the hive *is* "level." And then, again,

CRIMSON CLOVER
And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Crimson Clover	70c	1.20	2.75	5.00
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Prices subject to market changes.
Add 25 cents to your order, for cartage, if wanted by freight.

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in a good honey-flow the bees will draw out the comb to the edge of the section and fasten it to the cleats on the fences, thereby causing a row of cells to be uncapt in removing the sections. However, we would like to hear the experience of others.

KINZEL & EMERT.
Sevier Co., Tenn.

Cider Brandy for Bee-Stings.

Here is an incident I was told by an old bee-keeper the other day; there may be something in it, but I do not say there is:

While talking with a bee-keeper the other day about bee-stings, he said he once witnest a very severe case which occurred to a person who started to hive another swarm of bees, having hived one that same day. It had clustered on a limb of a pear-tree, and he had advanced within about two rods of the cluster when they came for him, posthaste, and he was nearly covered in less time than it takes to tell it. He retreated toward his home, which was a little distance away. On reaching it he found himself completely blind from the effects of the stings. His wife went to the cellar for a pitcher of cider brandy, as they used to keep it handy. She returned with it and put it on the table by the patient, and went to get a glass, but he was suffering so much that he took the pitcher and drank its contents, which was enough to intoxicate five men, tho he failed to feel its strength when in that condition; but the poison from the bee-stings came out from the wounds like gum from a tree, and he recovered in a few days.

Now, Mr. Editor, what do you think of that?

The honey crop is fair from basswood and sumac, with a good prospect for a fall flow. White clover failed. If

$5.00 per month will pay for medical treatment for any reader of the American Bee Journal. This offer is good for 3 months ONLY—from May 1 to Aug. 1. Dr. Peiro makes this special offer to test the virtue of small price for best medical services. Reply AT ONCE.

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I have 400 crates of two 60-pound cans each that were used once, and are nearly as good as new. I offer until this lot is exhausted at 50c per crate, or 10 crates at 45c each. New crates of two 60-pound cans each cost 85c. Speak quick. Root's goods at Root's prices, also Muth's Jars. Send for Catalog. HONEY AND BEESWAX WANTED. **C. H. W. WEBER,**
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The Modern Remedy Co., Kewanee, Ill.

we can improve our stock so as to make them red clover workers, we may look for better success. ROBT. J. CARY.

Fairfield Co., Conn., July 21.

['Tis said, Mr. Cary, that it takes one poison to kill or counteract another poison. Now, if cider brandy or any other kind of brandy or whisky, were taken only under circumstances similar to those mentioned, we think there would be few people who would object to their use. But it is just possible that with the cold water treatment the unfortunate victim referred to would have recovered just the same, so it isn't necessary always to recommend intoxicating liquors as a medicine. There is a hospital here in Chicago which has had a better record in the successful treatment of cases which have come under its care since they have dispenst entirely with the use of liquors.—EDITOR.]

A Report—Swarming Management—Honey-Dew—Bees as Pollinators.

Bees are working hard at present on both white and alsike clover. The last named seems to be the better of the two. June 15th my scales colony gained two pounds, and have been gaining ever since.

Last year my bees did not do anything up to July 7th. We did not get any clover honey, but I got about 3,000 pounds of light-colored honey, which was gathered from mint and blue vervain, both of which are plentiful here, and the prospects are good for a crop of honey from them again this year, and I think if the weather keeps dry I will get some clover honey.

I have 81 colonies, and have had no natural swarms, tho I have made 3 artificial swarms, but I like natural swarms better, as they seem to go to work as tho nothing had happened; but when you divide a colony the one that has no queen almost always lies idle for a few days, which means quite a loss in a good honey-flow. I hived some natural swarms on full-drawn combs in the forenoon, and gave them an extracting-super, and by night I found considerable honey in the extracting-combs. In a week I extracted from those colonies and they workt

Italian Queens!

reared from the best 3-band honey-gatherers, by the Doolittle method. Untested, 45 cents each; 1 dozen, $4.50. Tested, 75 cents each; 2-frame Nucleus, with tested queen, $1.75 each. No disease. Safe arrival.

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Are perfect in workmanship and color.

Orders shipt immediately upon receipt. A complete line of everything needed in the apiary. Five different styles of Bee-Hives.

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Four Celluloid Queen-Buttons Free
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OUR TOIL DOTH SWEETEN OTHERS

OUR TOIL DOTH SWEETEN OTHERS

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NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate, it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

Prices of Buttons alone, postpaid: One button, 8 cts.; 2 buttons, 6 cts. each; 5 or more, 5 cts. each. (Stamps taken.) Address,

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Untested Queens, Italian, 60 cents. Tested, $1.00.
From honey-gathering stock.
We keep in stock a full line of popular Apiarian Supplies. Catalog free.

Apiaries—Glen Cove, L. I. I. J. STRINGHAM, 105 Park Place, New York, N. Y.
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5 boxes (or 10 cans) 50 cents per box; 20 boxes or over, 45 cents per box; 100 boxes or over, 40 cents per box.

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50-egg incubator and brooder for a honey-extractor; or will exchange for empty hives, bees, or honey. A. SHAW, box 199, Boscobel, Wis.
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Adel Queens, $1 Each.

Send postal for dozen rates and description of bees. HENRY ALLEY, Wenham, Mass.
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25 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 25 cents a pound—CASH—for best yellow, upon its receipt, or 28 cents in trade. Impure wax not taken at any price.

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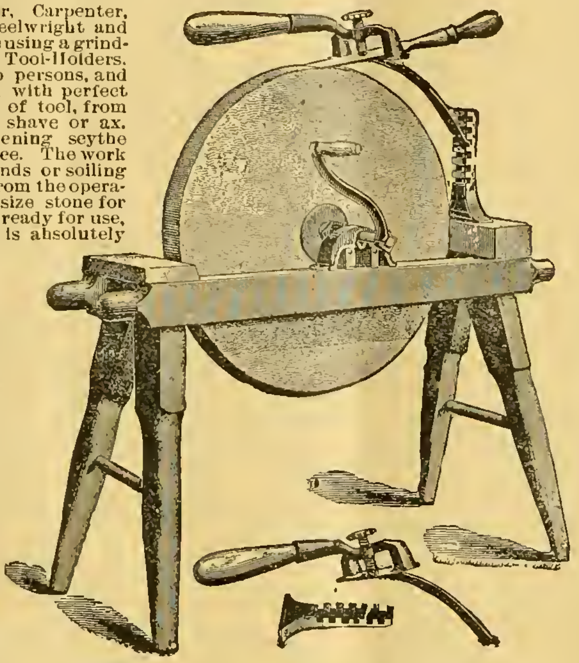
Every Manufacturer, Miller, Carpenter, Cabinet Maker, Machinist, Wheelwright and Quarryman, Farmer, or any one using a grindstone, should have one of these Tool-Holders. One boy can do the work of two persons, and grind much faster, easier and with perfect accuracy. Will hold any kind of tool, from the smallest chisel to a draw shave or ax. Extra attachment for sharpening scythe blades included in the above price. The work is done without wetting the hands or soiling the clothes, as the water flows from the operator. It can be attached to any size stone for hand or steam power, is always ready for use, nothing to get out of order, and is absolutely worth **100 times its cost.**

No farm is well-equipped unless it has a Tool-Holder. Pays for itself in a short time.

How to Use the Holder.

DIRECTIONS.—The Tool is fastened securely in the Holder by a set-screw and can be ground to any desired bevel by inserting the arm of the Holder into a higher or lower notch of the standard. While turning the crank with the right hand, the left rests on an steadies the Holder; the Tool is moved to the right or left across the stone, or examined while grinding, as readily and in the same way as if held in the hands.

For grinding **Round-Edge Tools,** the holes in the standard are used instead of the notches.



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Italian Queens.

	1	3	6
Untested Queens	$0.90	$2.50	$4.50
Select Untested Queens	1.25	3.25	6.00
Tested Queens	1.25	3.50	7.00
Select Tested Queens	2.00	5.00	9.00

These Queens are reared from honey-gatherers. Orders filled in rotation. Nothing sent out but beautiful Queens.

27A9t D. J. BLOCHER, Pearl City, Ill.

PAGE

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of **Page Fences,** and zealous to make them better.
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We will mail you your choice of any of the following 64-page poultry pamphlets at 10 cents each, or all 3 for only 25 cents—while they last:

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OUR POULTRY DOCTOR, or, Health in the Poultry Yard, and How to Cure Sick Fowls. All about poultry diseases and their cure.

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Please Mention the Bee Journal when writing Advertisers.

right along. When I make artificial swarms I take about half of the bees and half of the brood, and the queen, and put them into a new hive, and fill both hives with combs. Then I take the new hive that contains the queen and set it on a new stand. This works quite well for me, but sometimes the colony that was left will build a lot of queen-cells, and swarm, tho I almost always go thru them and cut out all but two cells. That stops swarming.

When my bees swarm, and I don't want them to swarm but once, I get the swarm on a swarming-box that I have used for some time, which is made of half-inch lumber. It is about 18 inches long and 8 inches square with a lot of holes bored in it, and one end left open. It is attacht to a long pole, so I can get them to cluster there. When they are all in and on the box, I move the hive that the swarm issued from to a new stand; then I get the swarming-box that contains the swarm, and dump them on the alighting-board. In so doing I have never lost a single swarm, and this plan of moving the old hive weakens it to such an extent that it does not swarm any more that year; while the new swarm being placed on the old stand catches all the field-bees that were out during the time the swarm issued. Having the new swarm on full-drawn combs works a little like giving a newly-married couple a full outfit to start in house-keeping with.

I have seen bees gathering honey-dew from oak leaves, and on examination found a kind of wedge-shaped insect on the bottom of the leaves and branches. I found this same kind of insect on the hedge fences a few years ago. This honey-dew was of a very light color, and was very abundant, so it could be seen in small drops on the stems of the new leaves. When these drops get so large that they fall on the leaves below they look like real dew, as some people think it is. I think if they would examine the matter very closely, they would almost always find the insects that produce honey-dew. Bees will work on these oak-leaves early in the morning and late in the afternoon. This stuff was used by the bees for brood-rearing, which is about all it is fit for. But it is a good thing that we get some honey-dew in this locality, because it generally comes when there is nothing else for the bees to get any honey from.

I have wondered for some time why it is that farmers do not pay more attention to bees, when the bees are their best friends. If they have any fruit-trees bees of some kind are needed to fertilize the blossoms, and the honey-bee seems to be the best for this purpose. I think bee-keepers could do a great deal along this line by talking to their neighbors that keep bees, and telling them the real good that bees do for them in getting their fruit, and telling them the real value bees are in getting fruit-trees to bear; and it will not do any harm to tell them a little about honey, because most people think that all bees are good for is to store honey and sting. It would be a good thing if we could have a little of this nature study taught in our public schools. JACOB WIRTH.

Henry Co., Ill., June 17.

Belgian Hare Guide AND DIRECTORY OF BREEDERS. Price 25c.
Inland Poultry Journal Co., Indianapolis, Ind.

BEE-BOOKS

SENT POSTPAID BY

George W. York & Co. 118 Mich. St. Chicago.

Bees and Honey, or Management of an Apiary for Pleasure and Profit, by Thomas G. Newman.—It is nicely illustrated, contains 160 pages, beautifully printed in the highest style of the art, and bound in cloth, gold-lettered. Price, in cloth, 75 cents; in paper, 50 cents.

Langstroth on the Honey-Bee, revised by Dadant.—This classic in bee-culture has been entirely re-written, and is fully illustrated. It treats of everything relating to bees and bee-keeping. No apiarian library is complete without this standard work by Rev. L. L. Langstroth the Father of American Bee-Culture. It has 520 pages, bound in cloth. Price, $1.25.

Bee-Keepers' Guide, or Manual of the Apiary, by Prof. A. J. Cook, of the Michigan Agricultural College.—This book is not only instructive and helpful as a guide in bee-keeping, but is interesting and thoroly practical and scientific. It contains a full delineation of the anatomy and physiology of bees. 460 pages, bound in cloth and fully illustrated. Price, $1.25.

Scientific Queen-Rearing, as Practically Applied, by G. M. Doolittle.—A method by which the very best of queen-bees are reared in perfect accord with Nature's way. Bound in cloth and illustrated. Price, $1.00.

A B C of Bee-Culture, by A. I. Root.—A cyclopædia of 400 pages, describing everything pertaining to the care of the honey-bees. Contains 300 engravings. It was written especially for beginners. Bound in cloth. Price, $1.20.

Advanced Bee-Culture, Its Methods and Management, by W. Z. Hutchinson.—The author of this work is a practical and entertaining writer. You should read his book; 90 pages, bound in paper, and illustrated. Price, 50 cents.

Rational Bee-Keeping, by Dr. John Dzierzon.—This is a translation of his latest German book on bee-culture. It has 350 pages, bound in paper covers, $1.00.

Bienen-Kultur, by Thos. G Newman.—This is a German translation of the principal portion of the book called "Bees and Honey." 100-page pamphlet. Price, 25 cents.

Bienenzucht und Honiggewinnung, nach der neuesten methode (German) by J. F. Eggers.—This book gives the latest and most approved methods of bee-keeping in an easy, comprehensive style, with illustrations to suit the subject. 50 pages, board cover. Price, 50 cents.

Bee-Keeping for Beginners, by Dr. J. P. H. Brown, of Georgia.—A practical and condensed treatise on the honey-bee, giving the best modes of management in order to secure the most profit. 110 pages, bound in paper. Price, 50 cts.

Bee-Keeping for Profit, by Dr. G. L. Tinker.—Revised and enlarged. It details the author's "new system, or how to get the largest yields of comb or extracted honey." 80 pages, illustrated. Price, 25 cents.

Apiary Register, by Thomas G. Newman.—Devotes two pages to a colony. Leather binding. Price, for 50 colonies, $1.00; for 100 colonies, $1.25.

Dr. Howard's Book on Foul Brood.—Gives the McEvoy Treatment and reviews the experiments of others. Price, 25 cents.

Winter Problem in Bee-Keeping, by G. R. Pierce.—Result of 25 years' experience. 30 cts.

Foul Brood Treatment, by Prof. F. R. Cheshire.—Its Cause and Prevention. Price, 10 cts.

Foul Brood, by A. R. Kohnke.—Origin, Development and Cure. Price, 10 cents.

Capons and Caponizing, by Dr. Sawyer, Fanny Field, and others.—Illustrated. All about caponizing fowls, and thus how to make the most money in poultry-raising. 64 pages. Price, 20c.

Our Poultry Doctor, or Health in the Poultry Yard and How to Cure Sick Fowls, by Fanny Field.—Everything about Poultry Diseases and their Cure. 64 pages. Price, 20 cents.

Poultry for Market and Poultry for Profit, by Fanny Field.—Tells everything about Poultry Business. 64 pages. Price, 20 cents.

BEES **QUEENS**
Smokers, Sections,
Comb Foundation
And all Apiarian Supplies
cheap. Send for
FREE Catalogue. E. T. FLANAGAN, Belleville, Ill.

Please mention Bee Journal when writing.

High Grade Italian Queens

One Untested Queen	$ .60
One Tested Queen	.80
One Select Tested Queen	1.00
One Breeder	1.50
One-Comb Nucleus	1.00

27 Years Rearing Queens for the Trade.

We Guarantee Safe Arrival.

J. L. STRONG,
14Atf CLARINDA, Page Co., IOWA.

Please mention Bee Journal when writing

Rocky Mountain Bee-Plant Seed!

(*Cleome integrifolia.*)

...FREE AS A PREMIUM...

The A B C of Bee-Culture says of it: "This is a beautiful plant for the flower-garden, to say nothing of the honey it produces. It grows from two to three feet in hight and bears large, clusters of bright pink flowers. It grows naturally on the Rocky Mountains, and in Colorado, where it is said to furnish large quantities of honey."

We have a few pounds of this Cleome seed, and offer to mail a ¼-pound package as a premium for sending us **ONE NEW** subscriber to the American Bee Journal, with $1.00; or ¼ pound by mail for 40 cents.

GEORGE W. YORK & CO.
118 Michigan St. CHICAGO ILL.

Second-Class Queens,

(What Becomes of Them ?)

As to color of progeny there are some tested queens that are second-class, that are equal to any for business. That is, 3-band bees predominate in the offspring of golden mothers. These are sold at 50 cents each. If 5-band bees predominate, and do not exceed 80 percent, they are worth $1.00; above this and not to exceed 95 percent, $1.25; all of a higher grade and not uniformly markt, $1.50 each; while first-class breeders are placed at only $2.00.

Untested, either 3 or 5-band, 75c each; or 3 for $2.00. Money order office, Warrenton, N. C.

W. H. PRIDGEN,
24Atf Creek, Warren Co., N.C.

Please mention Bee Journal when writing advertisers.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, July 7.—Some new white comb honey is selling at 15c; not much offered and not much demand for it. Extracted is slow sale; best white, 7@7½c; best amber, 6½@6¾c; dark amber, 5@5½c. Beeswax, 27@28c.
R. A. BURNETT & Co.

CINCINNATI, July 20.—White extracted honey, 7@7½c; southern extracted, 5¾@6½c, owing to quality. No comb honey on market. Good demand for beeswax at 25@27c.

Shipments of extracted honey from the South are more numerous than a few weeks ago, but we find it hard to make sales, owing to a slow demand. C. H. W. WEBER, 2146 Central Ave.

BUFFALO, July 20.—For strictly fancy white one-pound comb honey we are getting 16@17c. Any grade sells high—10@15c, as to grade.
BATTERSON & Co.

KANSAS CITY, July 20.—We quote: New No. 1 white comb, 14@15c; No. 1 amber, 14c; dark, 13c. Extracted, old, 6@6½; no new in market. Beeswax, 22@25c. C. C. CLEMONS & Co.

DETROIT, July 24.—Fancy white comb, 15@16c; No 1, white, 14@15c; amber and dark, 10@12c. Extracted, white, 7c; amber and dark, 5@6c. Beeswax, 25@26c.

Supply and demand for honey both limited.
M. H. HUNT & SON.

NEW YORK, July 26.—There is a fair demand for white comb honey, and enough arriving from the South to supply the demand. Fancy white sells at 15c; No. 1 white, 13@14c; No. 2 white, 11@12c. Extracted remains rather quiet, and the market is sufficiently stockt to meet the demand. Beeswax very firm at 28@29c.
HILDRETH & SEGELKEN.

SAN FRANCISCO, July 18.—White comb, 12@12½c; amber, 9@11; dark, 6½@7½c. Extracted, white, 7½@8c; light amber, 7@7¼c; amber, 6@6½c. Beeswax, 26@27c.

Amber grades are in fair supply, both comb and extracted, and there is a moderate business doing in the same at prevailing figures, mostly in a small jobbing way and on local account. Large dealers are purchasing only to fill immediate orders, not caring to stock up at present prices. Water-white honey is scarce and in a limited way is salable at tolerably stiff figures.

WANTED—HONEY AND BEESWAX.

We have a tremendous and growing trade in this line, and would like to hear from all who have such goods to sell in any part of the country, with quality, description, and lowest cash price. THOS. C. STANLEY & SON, Fairfield, Ill.

WANTED COMB HONEY AND EXTRACTED HONEY. Will buy your honey, no matter what quantity. Mail sample with your price expected delivered in Cincinnati. I pay cash on delivery. C. H. W. WEBER, 2146 Central Ave., CINCINNATI, OHIO.

"The New Voice" Free for Five Months!

Everybody knows of THE NEW VOICE as the greatest temperance and prohibition weekly newspaper on earth. We have made arrangements with its publishers, so that we can offer it for the 5 months beginning with July 1,

Free as a Premium for sending us one New Subscriber for one year to the American Bee Journal (with $1.00.)

If you would like to see a sample copy first, write a postal card to THE NEW VOICE, 315 Dearborn St., Chicago, Ill., and ask for it.

THE NEW VOICE is $1.00 a year; but to any one who will send us 30 cents, we will have it mailed for the 5 months mentioned above; or for $1.20 we will send any one the American Bee Journal for one year and THE NEW VOICE for the 5 months—July, August, September, October and November.

All who get THE NEW VOICE on these offers must be new subscribers to that paper, and not renewals. Address

GEORGE W. YORK & CO.,
118 Michigan Street, CHICAGO, ILL.

We have a Large Stock on hand and can ship promptly.

SEND US YOUR ORDERS FOR

Hives, Extractors

OR ANYTHING YOU WANT IN THE BEE-KEEPING LINE.

WE MAKE ONLY THE BEST.

Our Falcon Sections and New Process Foundation are ahead of everything, and cost no more than other makes. New Catalog and copy of The American Bee-Keeper free. Address,

THE W. T. FALCONER MFG. CO.,
JAMESTOWN, N. Y.

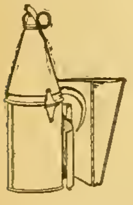
☞ W. M. Gerrish, East Notingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.

Please mention Bee Journal when writing.

MADE TO ORDER.

BINGHAM BRASS SMOKERS

made of sheet-brass which does not rust or burn out should last a life-time. You need one, but they cost 25 cents more than tin of the same size. The little pen cut shows our brass hinge put on the three larger sizes.

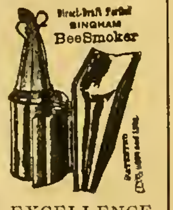


No wonder Bingham's 4-inch Smoke Engine goes without puffing and does not

DROP INKY DROPS.

The perforated steel fire-grate has 381 holes to air the fuel and support the fire.

Prices; Heavy Tin Smoke Engine, four-inch Stove, per mail, $1.50; 3½-inch, $1.10; three-inch, $1.00; 2½-inch, 90 cents; two-inch, 65 cents.



BINGHAM SMOKERS

are the original, and have all the improvements, and have been the STANDARD OF EXCELLENCE for 22 years. Address,

T. F. BINGHAM,
Farwell, Mich.

I ARISE

To say to the readers of the Bee Journal that

DOOLITTLE...

has concluded to sell QUEENS in their season during 1900, at the following prices:

1 Untested Queen	$1.00
3 Untested Queens	2.25
1 Tested Queen	1.25
3 Tested Queens	3.00
1 select tested queen	1.50
3 " " Queens	4.00
Select Tested Queen, last year's rearing	2.50
Extra selected breeding, the very best	5.00

Circular free, giving particulars regarding each class of Queens, conditions, etc. Address,

G. M. DOOLITTLE,
11A26t Borodino, Onondaga Co., N. Y.

Please mention Bee Journal when writing Advertisers.

23rd Year **Dadant's Foundation.** 23rd Year

Why does it sell so well?

Because it has always given better satisfaction than any other.
Because **in 23 years** there have not been any complaints, but thousands of compliments.

We guarantee satisfaction.

What more can anybody do? **BEAUTY, PURITY, FIRMNESS, No SAGGING, No LOSS.**
PATENT WEED PROCESS SHEETING.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

BEE-KEEPERS' SUPPLIES OF ALL KINDS.

Langstroth on the Honey-Bee, Revised.

The Classic in Bee-Culture—Price, $1.25, by Mail.

Beeswax Wanted at all times.

CHAS. DADANT & SON,
Hamilton, Hancock Co., Ill.

Please mention Bee Journal when writing.

California! If you care to know of its Fruits, Flowers, Climate or Resources, send for a sample copy of California's Favorite Paper—

The Pacific Rural Press,

The leading Horticultural and Agricultural paper of the Pacific Coast. Publisht weekly, handsomely illustrated, $2.00 per annum. Sample copy free.

PACIFIC RURAL PRESS,
330 Market Street, - San Francisco, Cal.

FREE FOR A MONTH....

If you are interested in Sheep in any way you cannot afford to be without the best Sheep Paper publisht in the United States.

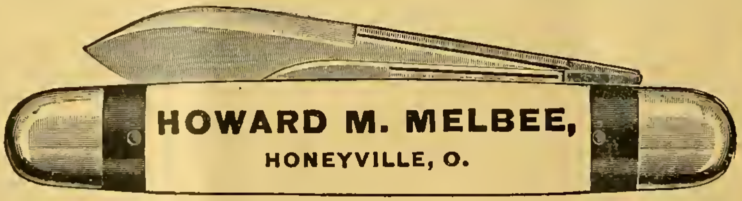
Wool Markets and Sheep

has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.

WOOL MARKETS AND SHEEP, CHICAGO, ILL.

The Novelty Pocket-Knife.

Your Name and Address on one side—Three Bees on the other side.



[This Cut is the Full Size of the Knife.]

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel. and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass: the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your Pocket-Knife will serve as an identifier; and in case of death, your relatives will at once be notified of the accident.

How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

How to Get this Valuable Knife.—We send it postpaid for $1.10, or give it as a Premium to the one sending us THREE NEW SUBSCRIBERS to the Bee Journal (with $3.00.) We will club the Novelty Knife and the Bee Journal for one year, both for $1.90.

GEORGE W. YORK & CO., 118 Mich. St., Chicago, Ill.

☞ Please allow about two weeks for your knife order to be filled.

GEORGE W. YORK, Editor.

AMERICAN BEE JOURNAL.

ESTABLISHT IN 1861 OLDEST BEE-PAPER IN AMERICA

DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS.

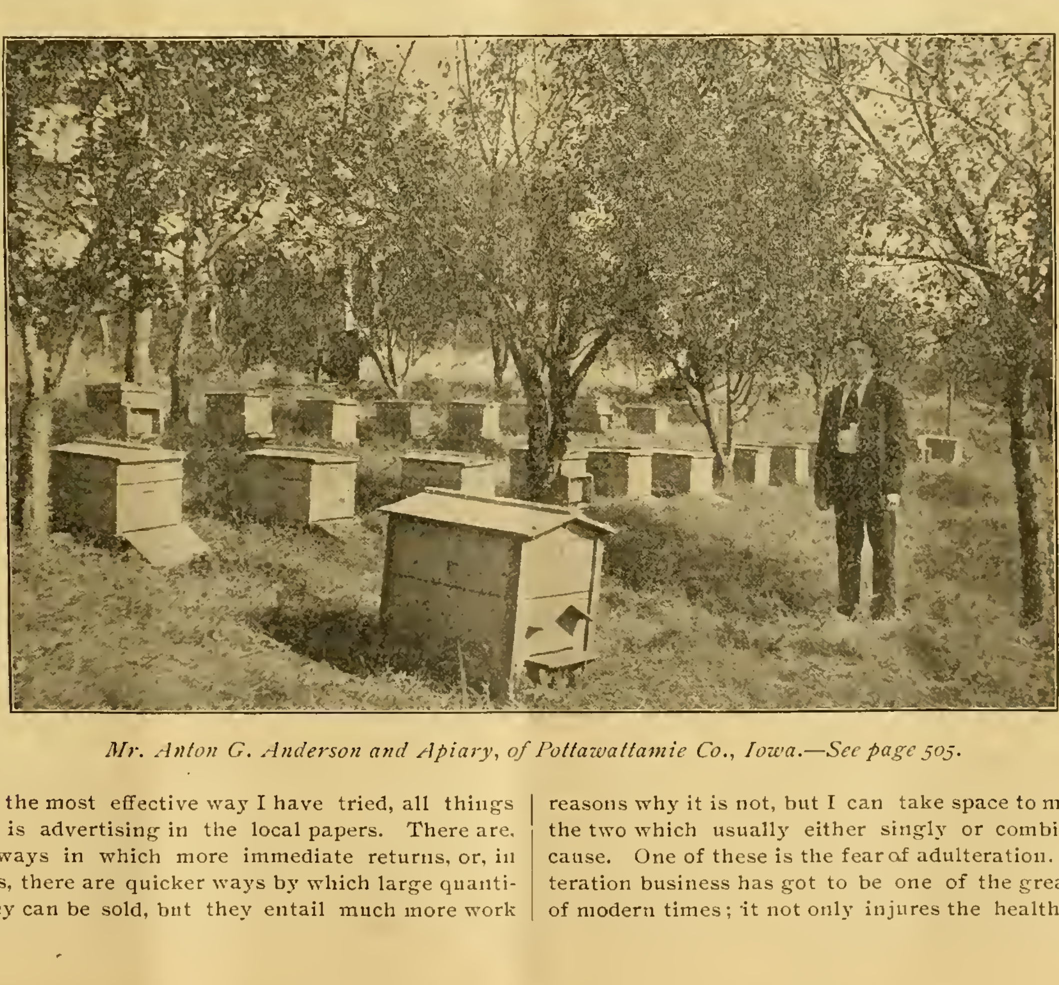
40th YEAR. CHICAGO, ILL., AUGUST 9, 1900. No. 32.

CONTRIBUTED ARTICLES

Selling Honey by Local Newspaper Advertising.

BY C. DAVENPORT.

IN my previous article I called attention to the fact that all efforts of whatever kind made to increase the sale and demand for our product is advertising in some form, and as before intimated, I have tried it in many different ways, and by far the most effective way I have tried, all things considered, is advertising in the local papers. There are, tho, other ways in which more immediate returns, or, in other words, there are quicker ways by which large quantities of honey can be sold, but they entail much more work and expense; besides, it requires a certain kind of skill or ability, as well as experience, to make them a success; for these reasons they are far less practicable than newspaper advertising.



Mr. Anton G. Anderson and Apiary, of Pottawattamie Co., Iowa.—See page 505.

But, my friends, this is not so simple a matter as it appears. Whole books have been written on the subject, and shrewd, intelligent men are making a life work of learning the methods or ways in which the most returns for the money expended can be secured by newspaper advertising so the few words I say in the small space I am necessarily allowed, can only treat the subject in a general way.

In any locality where the demand is not what it should or might be, the first thing to be determined is, Why isn't the demand and consumption greater? There may be many reasons why it is not, but I can take space to mention only the two which usually either singly or combined are the cause. One of these is the fear of adulteration. This adulteration business has got to be one of the greatest curses of modern times; it not only injures the health of millions who thru ignorance or necessity eat adulterated food products, but it works great harm to many producers by creating a prejudice in the minds of the people against their product. This is the case in our pursuit. There is no use in our trying to dodge the fact that our product is lookt upon with more or less suspicion by the general public. Many people really believe that bee-keepers feed their bees sugar, glucose, cane-syrup, and the like, in order to have them "make" honey from it. In fact, I myself, a few years ago, accused one of the bee-keepers in this State of producing and selling comb honey made from sugar, but I now know I was in error, and that it can not be done. Yes, I tried it; gave it a most thoro trial, not because I intended to practice it if it was profitable—no, I intended that if sugar-honey could be produced for 10 and 12 cents a pound at wholesale, to pull right out of the whole business; but I have no fears of any actual adulteration of this kind ever being done, even if the wholesale price of honey should be double what it has been the last few years. Not because I think there are none who might not practice it, but simply because it could not be done with profit.

But the belief in my locality became so strong, that bee-keepers were selling honey made from sugar and cane-syrup, that it seemed impossible to increase its sales. As a matter of fact, I lost considerable trade already workt up. When this feeling was at its hight, the following notice appeared in one of the local papers:

> $500 REWARD.
>
> Five hundred dollars will be paid by us to any one who proves by analysis or otherwise that any honey sold by C. Davenport or his agents is adulterated in any way or manner; or, in other words, if it is not pure nectar gathered by bees from flowers. This offer holds good a year from date. ———— & Co., *Bankers*.

This notice appeared only once, but that was sufficient, for I secured a large number of the papers. One old lady, to whom I showed the notice, said: "Of course that settles it, and I am glad you have quit feeding your bees stuff. Genuine honey from flowers is what I want." She was one of my regular customers, but had previously that year refused to take any, saying frankly that she was afraid it was adulterated; and I could not convince her that it was not, but a guarantee of $500 did, as it did almost all others. Of course, there are always a few that nothing can convince. But suspicion gradually died out, until some time ago, when it began to revive again. This distrust of honey was not confined to my immediate neighborhood by any means, but extended over a wide extent of territory.

A less amount of money as a guarantee of purity will answer, as I found when working up trade in other towns, but in a locality where no suspicion about the purity of honey locally produced exists, it would be folly to bring up the subject and offer any reward at all.

This brings us to the other reason to be discust, why the local demand is not greater. This is on account of indifference, and general ignorance of its worth. As a means of overcoming this cause or reason, short but numerous paragraphs should appear in a local paper, calling attention to its great value as a daily article of food on account of its healthfulness; that, besides being one of the most delicious sweets known, it possesses great medicinal virtues in many forms of throat, lung, and stomach troubles; how some of our most eminent physicians attribute many forms of kidney diseases which so often terminate fatally, to the free use of cane-sugars; and that some of these patients are forbidden any form of sweet food except honey.

Call attention to the remarkable fact that when man lived to be 300 or 400 years old, honey was the only form of sweet known; how bees and their product have from these earliest times descended to us of the present time unchanged by the evolution of ages.

I have emphasized the fact and explained why some honey may be much inferior to others; that on account of devoting my whole attention to its production, with the most modern hives and appliances, what I sell is warranted to be the best of its kind; that the great improvements in hives, a better understanding of bees, and the increast numbers in which they are kept, have caused honey of late to be sold at such a price that its use is no longer a luxury to be enjoyed only by the rich, but that it can now be used by all classes, even as a matter of economy under some conditions.

All the short paragraphs I have caused to appear relating to the subject have been put at the head and sandwicht in between paragraphs relating to local events. Small notices of this kind put among regular advertisements are apt to be overlookt, but all who take a paper carefully read the local notes, because otherwise they might miss something of great importance, said either about themselves or their neighbors. So, just after reading how Miss Jones wore her new bonnet to church last Sunday, the next paragraph may inform them that C. Davenport, while it lasts, is offering choice mixt clover and basswood extracted honey for 8 cents a pound.

Tho every one does not take the local paper, those who do not may borrow it of their neighbors.

A person who formerly lived here but who is now a resident of Dakota, had the local paper from here, his old home, sent to him, and saw these notices. He wrote in regard to honey, and has since been a large customer, buying on an average about 500 pounds a year, part of which he probably retails at a profit amongst neighbors; and from this one customer that I secured by this means, I have received a number of times the amount above what I could in the city markets, to pay what my newspaper advertising has cost me, all told. A single announcement in a paper merely offering honey for sale, stating its price and telling where it can be obtained direct from the producer, will under some conditions bring results that could not by some be obtained in a week's work of peddling. Local newspaper advertising rates are very low, and I have been able to pay most of these bills with honey.

And if the immediate returns from this form of advertising are not what is expected, it should not be hastily condemned or abandoned, for its later effects are often far greater. I am acquainted with a bee-keeper who has, in a comparatively short time, almost entirely by this means, workt up such a trade that altho he keeps 200 or 300 colonies himself, he has to buy thousands of pounds annually to supply the demand. His advertising, tho, is not limited or confined to his local paper; much of his trade is in other States. Besides receiving a much better price than could be obtained in the general wholesale markets, he gets the cash before the goods are shipt.

Southern Minnesota.

⁂

Mountain Honey-Dew—Eucalyptus Honey.

BY PROF. A. J. COOK.

A FEW days ago I did what I wish every bee-keeper in America could do—visited the far-famed Yosemite Valley. Think of a valley seven miles long and one mile wide, surrounded on all sides by rocks which rise almost vertically to a height of nearly one mile! Think of the Yosemite Falls, 2,600 feet high, and with one leap of 1,600 feet! Try to picture to other falls on the larger Merced River, the Nevada Falls and the Vernal Falls, near each other, so that both are visible at the same time, one over 300 and the other over 600 feet high!

Imagine, if you can, great glacier-worn domes looking like so many bald heads, crowning the lofty heights which surround this valley. Well, we surrounded, carried by faithful horses, one of these great domes, called the south or half dome, and ascended to the top of Cloud Rest beyond it, when we were over 10,000 feet above the sea. For the last mile of our ascent the pine trees were just drippng with honey-dew, and the chaparral beneath was also shining with the great drops of nectar. The bees have evidently not reacht as high as this in the mountains, as we saw no bees on the honey-dew.

Some of my students who were with me, who had already been enlightened on the subject, were quick to seek for the authors of this secretion, and found them in the great hosts of plant-lice which everywhere infested the great pines. So thick was the nectar that we could easily collect it in sufficient quantities to test. We found, as I have almost always found it from plant-lice or aphids, exceedingly delicious. I exprest the wish to my student companions that I wisht I had an apiary on this grand old mountain summit. I should be sure of a great harvest of most excellent honey.

Myself, wife, and daughter are now spending a few days in the unique little town of Avalon, situated on Catalina Island. The beautiful town is nestled at the foot of high hills—almost mountains—and faces a placid little bay of the same name as the town. The whole place comprises but a few acres, and the streets are lined on both sides by fine eucalyptus trees. There are many of them now in full blossom, and they are musical with the hum of hosts of bees. Thus Catalina has its bees if Yosemite Mountains have not.

It will be remembered that Mr. Wood proposed to come here to rear queens in hopes to secure pure mating. He gave it up upon finding that there were bees already in abundance on the island.

Catalina Island, Calif., July 23.

Feed Value of Bokhara Clover—A Comparison.

BY T. F. A. CONNELLY.

THINKING it might be of interest to some bee-keepers, and as I have never seen it publisht, I will send the analysis of bokhara clover hay, and accompany it with the analysis of wheat and alfalfa hay for comparison, that they may learn the feed value of the bokhara hay. Any one can see by the chemical ingredients that bokhara is the equal of either in value as a forage-plant.

	Amount digestible in 100 pounds.				Potential Energy in 1 pound (calorics)	Nutritrine Ratio
	Crude Portine	Crude Fat	Crude Fiber	Nitrogen, Free Extract		
Wheat hay.....	3.14	1.20	9.81	37.40	987	1:15.8
Alfalfa hay....	12.41	1.57	10.40	26.73	985	1: 3.4
Bokhara hay...	8.68	1.92	9.96	29.42	976	1: 5.0

This analysis was made at the California Agricultural Experiment Station (see page 146, report for 1896). In this part of the State no one has yet made any hay from sweet clover. I have now 10 acres seeded to the plant, and will try it, but it is surely a good honey-plant, for last summer near me there was a small piece in bloom, and the bees workt on the bloom from June 10th till Nov. 13th, and I long since learned that bees do not visit flowers unless they contain nectar. I have also learned that no matter what plant the bloom always contains nectar. Within three miles of my apiary there are 1,000 acres of alfalfa, and generally the bloom is profuse, but the amount of surplus varies greatly, and altho I never have to feed, the amount of surplus in 1895 was, on an average, 120 pounds. One colony filled 420 sections. My yield of comb honey was 12 tons, while for 1896 my surplus was less than 70 pounds per colony. The conditions were precisely the same, as everything here is grown by irrigation. Our rainfall averages about four inches per summer.

The condition of the atmosphere has more to do with the flow of nectar than many suppose. I have seen the alfalfa meadows an ocean of blossoms, and not a bee visit them. Then it may be but a few days when the entire meadow will be alive with the industrious little workers. Or, the change may be the other way—from a busy scene to a holiday. One would think it was Sunday, or a circus, as there would be no work going on.

Some report that the rain washes the nectar out; that could not be the case here, for we have no rain.

There is no doubt but that with me the electric condition of the atmosphere governs the flow of nectar.

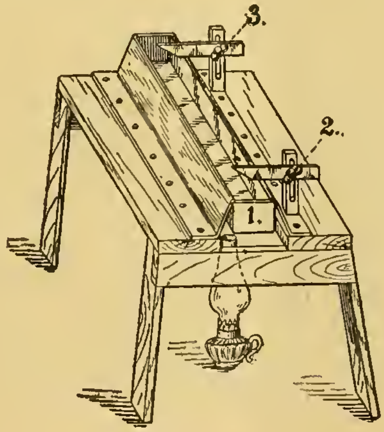
Inyo Co., Calif.

Directions for Dipping Cell-Cups or Goblets for Commercial Queen-Rearing.

BY W. H. PRIDGEN.

AS the latest freak in dipping receptacles for larvæ to be converted into queens is to make goblets instead of cups, I will explain how it is done.

The dipping-sticks illustrated again here (and which, by the way, were shown inverted, on page 401), were used to dip a whole batch at a time, and when heavy enough, and while the wax about the base was still in a liquid state, the whole set was toucht to the bar, which would adhere, and then the bar, or rather a thin slat, cups and all were dipt again, which fixt all to the slat at once. At this stage the slat and base only of the cups were toucht to cold water, and the dipping-sticks withdrawn one at a time, and is shown by one or two of the pegs being elevated in the picture, thus leaving the cups properly arranged on the slat ready to slip in the frame, as Mr. Doolittle tells us to do it.



Dipping-Tank for Queen-Cell Cups.

The dipping-tank shown herewith was used with this outfit, which is long enough to admit a bar or slat that fits between the end-bars of a brood-frame, and this outfit is still very serviceable for making cups for one's own use; but the pegs must be rigidly fixt for dipping the commercial article, for convenience in removing the goblets as well as forming them.

Two lamps are used, one near each end, to keep the wax at a uniform temperature, which should be just above the melting-point.

Now that the cups are no longer attacht to a bar, a piece of tin has been fitted into the bottom of the tank, having the ends perforated and turned up to a level with the top of the tank, just under the rests or guages, allowing pieces ot wax to be added as the liquid is used out, without its interfering with the work. The wax is added over the lamps, thus causing it to melt without raising the temperature elsewhere, and serves the purpose of keeping the depth of dip regulated without having continually to adjust the guages, which can be raised or lowered according to circumstances.

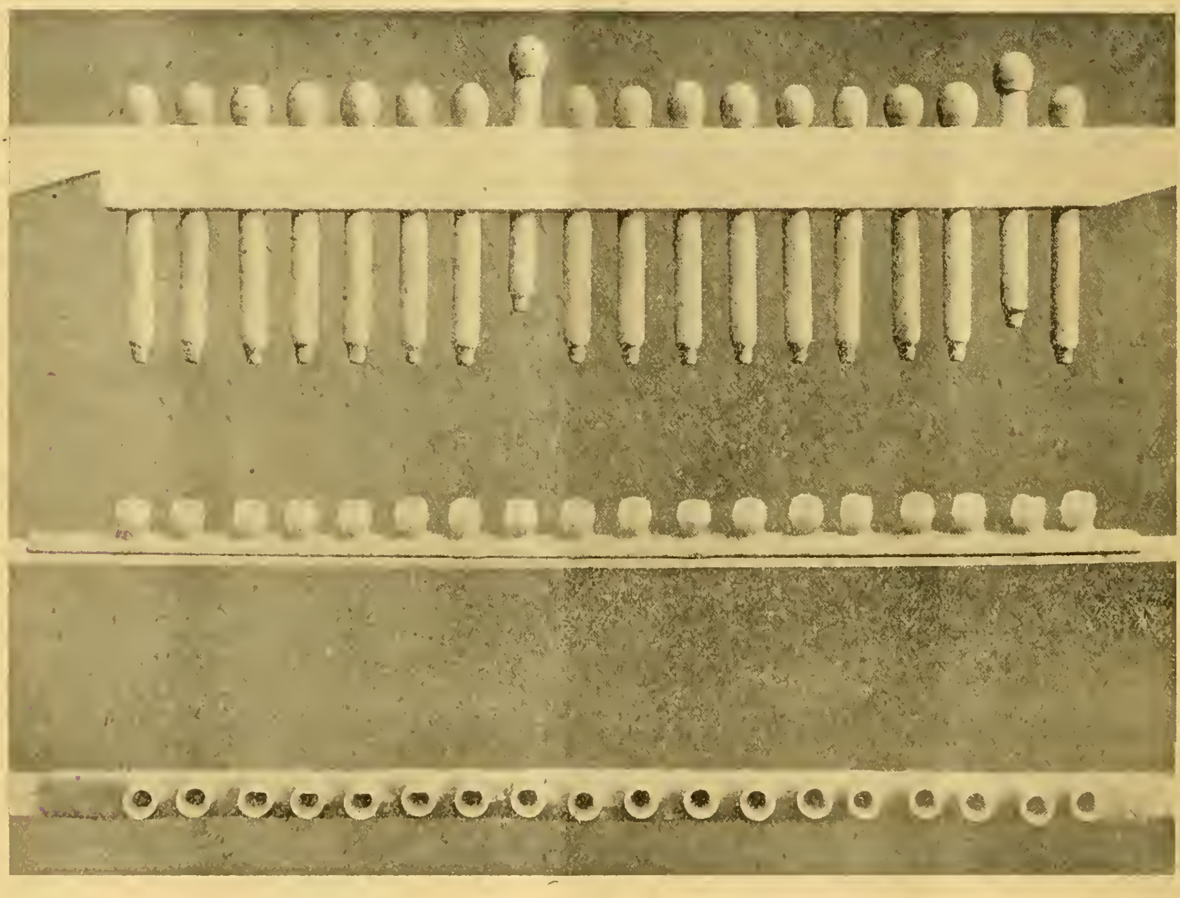
The bevels at the ends of the forming-stick holder both incline the same way, which admits of varying the depth of each alternate dip, by an endwise movement, and still use the guages as a rest, so as to dip the pegs from end to end alike.

To make the cups with flat bottoms or goblet shape, one must have a board on the table that has been thoroly soakt in water, and keep it wet by occasionally dipping it, or else touch the dipping-sticks to it every time they are taken from the water.

Make two dips the same depth in rapid succession, then touch the bases of the cups to the melted wax, and immediately set them on the wet board, to remain until the wax "sets." Then dip them half way up, and set them on the wet board as before. The next time dip three-fourths up, and go back to the wet board. At this stage the base may or may not be heavy enough, but the cups should be dipt again full depth, and set on the board, by shaking the drops off, if the bases are large enough, before placing them on the board, or, failing to shake them off, if the size of base is to be increast.

The main body of the cups should be made heavy enough at first to prevent the contraction in cooling to cause the water that can not be shaken from the sticks to burst thru and make water-bubbles or knots on them; and then increase the weight of the bases, as that part has to remain longer in the wax, altho the dipping is done quickly, and therefore is inclined to melt off; while the last dip should be full depth to make the cups smooth outside, and also to warm the whole up so they will slip off of the pegs easily.

When completed, touch the bases to cold water, but not deeper than the necks. This is done to harden the bases so that they can be handled; while the main body should remain warm to be easily removed. If allowed to contract too much they fit the pegs too tightly for easy removal.



A Whole Battery of Dipping-Sticks used in Modern Queen-Rearing—and the Results.

(Both engravings in this article kindly loaned by the Bee-Keepers' Review.)

If they are to be inserted in a bar as described in the issue of June 28, simply shake the drops of wax from them instead of placing them on the wet board, which will leave the bases pointed.

The goblet-shaped or flat-bottom cups are either stuck on the bar with melted wax, or else use a bar with two headless small nails projecting 1/16 of an inch, driven ¼ inch apart, where every cup is to stand, and simply press the cups down on them. I arrange the nails in pairs, forming two rows up and down the bar, and have the pairs ⅝ of an inch apart.

Warren Co., N. C.

CONVENTION PROCEEDINGS

Report of the Central Texas Convention.

BY LOUIS SCHOLL.

The sixth annual meeting of the Central Texas Bee-Keepers' Association was held at Hutto, July 12 and 13, 1900.

The convention was called to order by Pres. E. R. Jones at 10 a.m., July 12th. Rev. L. L. Lusk, of Hutto, offered prayer.

Mr. A. W. Carpenter delivered an address of welcome in behalf of the citizens of Hutto, to which Judge E. Y. Terral responded.

Secretary Scholl read the minutes of the last meeting, which were adopted. After calling the roll, new members were enrolled and dues collected.

A motion was made and carried that ladies (members) be exempt from dues.

It was moved and carried that any bee-keeper can join the Association at any time by writing to the secretary, and enclosing the regular membership fee of 50 cents for a year.

Another motion prevailed, "That any member who fails to attend, or fails to pay his dues for *three* consecutive meetings without a suitable excuse, be stricken from the list." Of course, when any one pays his yearly dues he is a member, whether he attends the annual meetings or not, as above.

The president's annual address was delivered by Pres. E. R. Jones. The election of officers for the next term resulted as follows:

O. P. Hyde, president; J. B. Salyer, vice-president; and Louis Scholl, of Hunter, secretary and treasurer.

HONEY-RESOURCES OF TEXAS.

On this subject Mr. Stachelhausen said he could not say much, as he had been over but a very small portion of Texas, and therefore could not know much about the honey-resources outside of his own locality. His main honey-plants are Indian-head, hoarhound, and horsemint, but he does not expect much from late horsemint. Mustard is another important one. In dry years mesquite is his main source; otherwise it is horsemint that gives the crop. Then cotton yields, while some years it does not, and he has not yet found what causes it. Broom-weed is sometimes good in the fall.

Judge Terral's experience was almost like that of Mr. Stachelhausen, not knowing much about other sources in other localities. He commenced by mentioning corn-tassels, and does not believe that bees ever get honey from them. His bees get some honey from turnip patches, and some other minor plants, followed by horsemint. He thought he could improve the yielding of horsemint by watering it, but failed. He believes that it grew too rank. He talkt about the old-fashioned buckwheat in Kentucky, where it just bent down to the ground loaded with bees, but the other sort was no good. He does not believe that cotton yields honey. He saw the bees work on the leaves just as they work on oak leaves, and believes that they only get "bug-juice."

Here F. L. Aten said that black bees do not work on cotton. He told of a man who had nothing but blacks that did not get any cotton honey; but as soon as he Italianized his bees they gathered cotton honey.

F. J. R. Davenport says that cotton on light land does not yield as well, and that the honey is different from the whiter honey of cotton on the black land. He also spoke about sweet clover as a good honey-yielding plant, and the different changes of the atmosphere and the effect upon the yield and secretion of nectar of the sweet clover blossoms.

D. C. Milam gave a list of the main honey-yielders of his locality (Uvalde County). First, is wild peach, a sort of evergreen, blooming in February; wild tan in March; also buffalo clover. Prickly pear and others help along the list. The wa-he-ah (gua-ella) is a wondrous honey-yielder, as bees store from this source faster and more honey in less time than anything else (in April). He depends upon catclaw for the main surplus, but this season it was a failure; in summer and fall horsemint, with other minor plants and "bug-juice" to finish.

M. M. Faust has other minor early plants for brood-rearing. Catclaw, mesquite, cactus and white brush, which blooms after every rain during its season only a short time.

B. A. Guss, of Bell County, locality and sources similar to other northern localities as mentioned by Messrs. Terral, Davenport, and others.

E. J. Atchley, of Bee County, almost like Uvalde County, mentioned as follows: Live-oak honey, if a good season, is very early and very valuable for brood-rearing; the quality, tho, is an inferior yellow honey. Wa-he-ah from March 1st to April 1st, is sometimes cut short by north winds. Catclaw is very thick, but on account of rain it failed this year, but horsemint was fine, and gave lots of honey. As horsemint is quite strong flavored, all combs are emptied for the mesquite flow which follows. Sometimes they have a second spring in the fall and get much honey; otherwise not. Sometimes this causes a bad spring following. He said that all colonies ought to be strong in the fall, and thus wintered over with plenty of stores will be in good shape to gather, and be ready for any early flow that might come. In answer to a question, he said it is best to feed in the fall and rear plenty of young bees. It would be too late in the spring.

FIRST DAY—EVENING SESSION.

College Station was selected as the place of the next meeting, at the same time as the Texas State Farmers' Congress.

The regular program was again taken up, and Louis Scholl tried to handle "Balks, Blunders and Difficulties in the Way of Beginners." "This subject must have been given to me by mistake, for I have always been too careful and went too slow to make any balks and blunders. But difficulties—I have had very many; but as they are all of private affairs, I would not like to tell about them. May be I was to tell about the balks, blunders and difficulties of others; but as I do not attend much to other people's business, I can not say anything on this subject at all."

Mr. Davenport said he did not even have to tell about other people's balks and blunders, as he had made some himself. But he told about a bee-keeper who hived a swarm of bees, and late in the fall he found that the "gum" was full of honey, so he *robbed* 'em. He took out all they had, and to make a good job of it he ordered his boy to get some biscuits, with which he daubed up clean every bit of honey. Of course, the bees got "rattled," swarmed out, and starved. Another man took some honey from his bees and unknowingly set fire to something in the bee-yard. Discovering it later, he found his bees and everything burned. He, himself, tho, has everything nice, neat and clean, nothing lying around, and puts all bits of comb, wax and honey away at once. He has his hives eight feet square, and keeps them clean, too, inside and outside.

A Member—Say, tell us about your wax and your wife's cook-stove.

Mr. Davenport said he melted wax on his wife's stove in a wash-boiler, and upset it.

G. F. Davidson arose to ask how Mr. Davenport manages to keep his big hives, which are eight feet square, clean. He said he could not do so.

Mr. Davenport explained that his hives are the regular size, but that they are set eight feet square or apart each way.

Mr. Davidson's first balks and blunders were made when he moved his first bees. After moving, the bees would swarm out. They were hived back only to have them come out again. To keep them from doing this he wanted to fix them, so he nailed up their entrances. He found out later that this was a serious mistake, for all melted down, and he lost the bees. He said he was once like many who think they know all about bees, and if they have success one year they are not slow to report it in some bee-paper; but next year it does not work at all.

M. M. Faust said that he was not like the first two gentlemen. Perhaps they were not real bee-keepers, or what they said was only complimentary of themselves. Lookt a little "fishy." He said he makes blunders all the time, and it sometimes seems as if all was blunders.

W. H. Laws never heard of any bee-keepers who balk. They never balk, but go ahead. They make blunders, tho, and he has heard plenty of such, just as he once clipt virgin queens.

E. R. Jones made two bad blunders. The first was to try to keep bees in his locality (Milam County), and his second was in not getting away from there.

MANAGEMENT OF OUT-APIARIES.

F. L. Aten gave his experience. He uses the 10-frame hive, three or four stories high, and has strong colonies. He does not work them the same hight every year, and by four stories high he does not mean an empty box and bees, but full of comb and bees to the top. He prevents swarming by giving plenty of room, spreading the brood-combs, and putting frames filled with comb foundation in between. He puts the rest of the combs above in the super, and fills up with frames of foundation. One must study this well, and use good judgment, or he will not succeed.

E. R. Jones has not had experience with out-apiaries, but his first object would be to manage successfully colonies to prevent swarming. This would be plenty of room in such shape and way as it can be best occupied. But it all depends upon circumstances. Sometimes comb foundation is almost useless when much wax is secreted during a fast flow. During a slower flow foundation is better.

E. J. Atchley would use 10-frame hives, 3-banded Italians, and prevent swarming on Mr. Aten's plan. He would extract honey, and see to them once in awhile, and would likely not lose many swarms. He would use frames all filled with comb, which is better. Sometimes colonies would have their brood-nest above, and plenty of room below, and would swarm; sometimes just the reverse; but when given room above and below, and also plenty of drone-comb in the hive, there is very little swarming. Swarming can not always be prevented.

ESSENTIAL QUALITIES OF A SUCCESSFUL BEE-KEEPER.

Udo Toepperwein advised first reading and taking all of the bee-papers; study the bee-books, and go to the bee-conventions. Then don't rush into the business, but go slow; and the farther he gets into it the less he sees and knows about it.

Mr. Stachelhausen—Work, read and think, and after awhile you will be a good bee-keeper.

D. C. Milam thinks that one who is successful at other things ought to be successful at keeping bees. Ought to stick to it thru thick and thin, and a bad year generally proves the successfulness of a bee-keeper, either when he lets his bees starve during such a year, or when he feeds them and helps them thru.

Mr. McClure thinks only those with a genuine bee-head are successful, and that those without such a head ought not to fool with bees, but apply themselves to something else for which they have a head.

But Mr. Davidson does not believe that it is the head alone, but that one must study to be successful. There are some who have kept bees in box-hives and gums, and never read a bee-paper. Such never succeed. This is the class of bee-men who are always asking such questions, "How do you keep web-worms out of the hives?" Others who get lots of honey from a few colonies, imagine that they will get rich by keeping more bees, and then not spend one dollar for a bee-paper; they are not successful.

W. H. Laws—It is the natural fitness for the business to make a successful bee-keeper, and such a man will make money out of bees, and also find pleasure in bee-keeping. Such he also thought would be successful at other pursuits.

E. J. Atchley says that experience is one thing necessary to be successful, as all those who rush into a thing big are never so.

R. B. Leahy told how he succeeded in bee-culture. He started with books first, read them thru and thru again; took the bee-papers and read them, and studied everything he could find on the subject. So he started with books and journals first, and succeeded with his bees afterwards.

SECOND DAY—FORENOON SESSION.

BEST METHOD OF COMB-HONEY PRODUCTION.

L. Stachelhausen says the production of comb honey in sections is more difficult than producing extracted honey. He described different methods that he uses. The most important is very strong, rousing colonies, with the brood-chamber crowded full of brood. This leaves no room for honey there, and the only place is in the sections in the supers above. One way of having strong colonies and plenty of room, by letting the queen breed in two stories, is unfit for producing section honey, as there are some empty combs in which the bees store the honey that ought to go into the sections. Large colonies in a small brood-chamber are better, and by splitting the brood all the time to keep from swarming. He told about Doolittle's method. Hiving swarms as per Hutchinson's method is a good way. His own way is similar to it. He changes hives as in swarming, by putting one of his shallow cases with starters only in the frames, in place of the colony just removed. Then he brushes all the bees from that colony into the new hive, and sets the section supers on top. Sometimes a queen-excluder is necessary, and to keep the bees quiet he gives them a frame of young brood, which has to be removed the next day or the bees will swarm out. First use another empty case below the one with frames and starters for a few days. Use the comb and brood for various purposes in the yard—combs on extracted-honey colonies, etc., and the brood can be given to nuclei. Or the Heddon method can be practiced. He never tried to put the brood-cases above the sections when all the colonies are run for comb honey exclusively.

Mr. Laws spoke on the plan as recommended by Mr. Demaree. Mr. Jones also told about several good experiments he had made, something similar to the Golden method. [Concluded next week.]

Queenie Jeanette is the title of a pretty song in sheet music size, written by J. C. Wallenmeyer, a musical bee-keeper. The regular price is 40 cents, but to close out the copies we have left, we will mail them at 20 cents each, as long as they last. Better order at once, if you want a copy of this song.

Chicago Convention Program.—The following is the program of the 31st annual convention of the National Bee-Keepers' Association, to be held at Chicago, Ill., Tuesday, Wednesday, and Thursday, Aug. 28, 29, and 30, 1900, the sessions to be held in Wellington Hall, 70 North Clark St.:

FIRST SESSION—TUESDAY EVENING.

Call to order at 7 o'clock.
Song—Dr. C. C. Miller, of Illinois.
"How to Sell Honey"—S. A. Niver, of New York.
"Keeping Bees in a City"—L. Kreutzinger, of Illinois.
Question-Box.

SECOND SESSION—WEDNESDAY MORNING, 9:30.

Song.
Invocation.
President's Address—E. R. Root, of Ohio.
"Queen-Rearing by the Doolittle Method"—Mrs. H. G. Acklin, of Minnesota.
Question-Box.

THIRD SESSION—WEDNESDAY AFTERNOON, 1:30.

Song.
"Bee-Keepers' Rights and Protection by Law"—Herman F. Moore, of Illinois.
"Trials of the Commission Man"—R. A. Burnett, of Illinois.
Question-Box.

FOURTH SESSION—WEDNESDAY EVENING, 7:30.

"Breeding for Longer-Tongued Bees"—J. M. Rankin, of the Michigan Experiment Station.
"Bee-Keepers I Have Met and Apiaries I Have Visited"—E. R. Root, of Ohio, assisted by Dr. C. C. Miller, Dr. A. B. Mason, E. T. Abbott, and others. Illustrated by a stereopticon.

FIFTH SESSION—THURSDAY MORNING, 9:30.

Song.
"Various Forms of Diseases Among Bees; Cause and Cure"—Dr. Wm. R. Howard, of Texas.
Report of the General Manager—Hon. Eugene Secor, of Iowa.
"Pure-Food Legislation"—Rev. Emerson T. Abbott, of Missouri.
Question-Box.

SIXTH SESSION—THURSDAY AFTERNOON, 1:30.

Song.
"Chemistry of Honey and How to Detect Its Adulteration"—Thos. Wm. Cowan, of California.
"How to Ship Honey to Market, and in What Kind of Packages"—George W. York, of Illinois.
Question-Box.

SEVENTH SESSION—THURSDAY EVENING, 7:30

"Co-operative Organization Among Bee-Keepers"—R. C. Aikin, of Colorado.
"My Trip Thru Wisconsin and Minnesota"—W. Z. Hutchinson, of Michigan. Illustrated by a stereopticon.
Unfinisht Business.
Adjournment.

One prominent feature of the next convention will be the stereopticon work. Messrs. Root and Hutchinson, with a powerful stereopticon, will project upon the screen some photos they have taken of apiaries they have visited in various portions of the United States. The convention will be held in Wellington Hall, 70 North Clark Street, about a block and a half from the office of the American Bee Journal, and about five blocks directly north of the Court-house. The hotel at which delegates may secure lodging is the Revere House, about half a block from the convention hall. The rate for lodging will be 50 cents per night, and the proprietor has assured Mr. York that good beds are provided, but that several will have to occupy the same room. But when any one desires a room with a single bed, the charge will be $2.00 per night. If two men wish to take a single room in that way they can do it, sharing the expense between them. Some G. A. R. people will pay 75 cents per night for a single bed, so bee-keepers are specially favored at 50 cents. The hotel is almost within a stone's throw of the convention hall, and right near the hall are first-class restaurants, where meals can be secured at reasonable rates.

It is a little too early yet to announce what the railroad rates will be during G. A. R. week; but it is assumed that they will be low, probably a cent a mile each way.

Chicago is a central point, and there will undoubtedly be a large attendance; and, considering the attractions, it is earnestly hoped that bee-keepers will turn out in good, strong force. E. R. Root, *President.*
Dr. A. B. Mason, *Secretary.*

"Josiah and I Go a-Visitin'" is the tittle of Josiah Allen's Wife's new humorous serial which is begun in the Midsummer Story Number (August) of The Ladies' Home Journal. There are also four short stories—"Catharine of Arrogance," "Grandmother Winslow's Precious Plates," "From a Far Country," "The Story of a Song"—and the conclusion of Julia Magruder's serial, "The Voice in the Choir." "College Girls' Larks and Pranks" reflects the wit and shows the love of fun of the American girl. There is also a group of stories full of interest and mystery about "The Haunted Houses of New England," and others in quite the opposite vein are related by Rev. Cyrus Townsend Brady in describing his experiences as "A Missionary in the Great West." "My Summer with Some Chipmunks" gives some exceedingly interesting glimpses of the coy, brown-coated little rodents. Of interest to every girl aspiring to a higher education is an article detailing "How a Girl Can Work Her Way Thru College," by a Cornell graduate. Mrs. Burton Kingsland writes on "Conversation and Good Form in Public Places," and Mrs. S. T. Rorer explains "Why I am Opposed to Pies." The August Journal takes its readers on another stage of the pictorial journey "Thru Picturesque America," gives some views of "An Entire House on a Single Floor," and on the cover presents Howard Chandler Christy's "American Girl in Society." "Golden Poppies," a waltz by B. H. Janssen, is sure to find abundant favor with music lovers. The departments are as varied and complete as usual, and the pictorial features numerous and of commanding excellence. By the Curtis Publishing Company, Philadelphia. One dollar a year; 10 cents a copy.

York's Honey Calendar for 1900 is a 16-page pamphlet especially gotten up to create a demand for honey among should-be consumers. The forepart was written by Dr. C. C. Miller, and is devoted to general information concerning honey. The latter part consists of recipes for use in cooking and as a medicine. It will be found to be a very effective helper in working up a home market for honey. We furnish them, postpaid, at these prices: A sample free; 25 copies for 30 cents; 50 for 50 cents; 100 for 90 cents; 250 for $2.00; 500 for $3.50. For 25 cents extra we will print your name and address on the front page, when ordering 100 or more copies at these prices.

Belgian Hare Breeding is the title of a pamphlet just publisht, containing 10 chapters on "Breeding the Belgian Hare." Price, 25 cents, postpaid. It covers the subjects of Breeding, Feeding, Houses and Hutches, Diseases, Methods of Serving for the Table, etc. It is a practical and helpful treatise for the amateur breeder. (See Prof. Cook's article on page 292.) For sale at the office of the American Bee Journal. For $1.10 we will send the Bee Journal for a year and the 32-page pamphlet on "Belgian Hare Breeding."

"The Hum of the Bees in the Apple-Tree Bloom" is the name of the finest bee-keeper's song—words by Hon. Eugene Secor and music by Dr. C. C. Miller. This is thought by some to be the best bee-song yet written by Mr. Secor and Dr. Miller. It is, indeed, a "hummer." We can furnish a single copy of it postpaid, for 10 cents, or 3 copies for 25 cents. Or, we will mail a half-dozen copies of it for sending us *one new* yearly subscription to the American Bee Journal at $1.00.

Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Upon receipt of $1.00 for your Bee Journal subscription *a full year in advance*, we will mail you a Wood Binder free—if you will mention it.

The Premiums offered this week are well worth working for. Look at them.

AMERICAN BEE JOURNAL
ESTABLISHT IN 1861 OLDEST BEE-PAPER IN AMERICA
DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS

PUBLISHT WEEKLY BY
GEORGE W. YORK & COMPANY,
118 Michigan Street, Chicago, Ill.

[Entered at the Post-Office at Chicago as Secoud-Class Mail-Matter.]

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DR. C. C. MILLER, "Questions and Answers." * * E. E. HASTY, "The Afterthought."

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F. A. SNELL, R. C. AIKIN, "OLD GRIMES."

IMPORTANT NOTICES:

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The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "Dec00" on your label shows that it is paid to the end of December, 1900.

Subscription Receipts.—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows you that the money has been received and duly credited.

Advertising Rates will be given upon application.

VOL. 40. AUGUST 9, 1900. NO. 32

EDITORIAL COMMENTS

NOTE—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

Dr. Miller Premium Honey-Queens.—As Dr. Miller is about caught up with orders now, he will likely be able to send queens quite promptly from now on. So we renew the offer of one of his queens as a premium for sending us one new subscriber to the American Bee Journal with $1.00. See the last page of this number.

Candied vs. Liquid Honey at Retail.—There seems to be an irrepressible conflict between those who advocate selling honey in liquid form and those who advocate training customers to accept it in the granulated condition. Among the chief advocates for selling honey in the granulated state have been R. C. Aikin, G. M. Doolittle, and Dr. C. C. Miller, altho the last-named might do well to keep his finger out of the pie, seeing he is a producer of comb honey, and can hardly have had much experience peddling extracted honey to customers. In one respect, Mr. Doolittle stands somewhat alone, for he preaches putting candied honey in wooden packages, filling up just before the honey is too solid to run. Two special advantages are claimed for this, and at least for some cases they are well worth considering. One is that the cost is less than for any other package. The other is that there is little danger of breakage, and practically none of leakage.

Mr. Chalon Fowls steps into the arena as a "liquid" champion, altho the blows he strikes in Gleanings in Bee-Culture are by no means liquid, but very solid. In reply to the claim that C. F. Muth had his customers trained to desire candied honey, he produces a letter from Fred Muth, a son of C. F., who says the bulk of his father's trade was to manufacturers, and it appears that those who demanded candied honey were those with whom Mr. Muth came in contact with personally as consumers, and could talk to, and he always made it his business to talk candied honey.

The strongest argument, however, in favor of selling honey in the liquid form is that given by Editor Root, in a foot-note, when he says that Mr. Fowls has been and is now getting double prices for his honey. Surely that is good pay for putting on the market a first-class article and replacing any that candies, and Mr. Fowls may well laugh at Dr. Miller's "straw" arguments. Editor Root says, however, referring to the great success of Mr. Fowls and W. A. Selser in selling liquid honey:

> "Yet if either one of them were in Mr. Aikin's locality he might find it more convenient to put out his honey in the candied form, and that the profits would be just as great; or, what is more probable, the people of Colorado would not pay the prices obtained by Mr. Selser and Mr. Fowls for their bottled goods."

Reporting Convention Proceedings.—There are very few people who understand getting up reports of conventions for publication. Some seem to think that the editor of the paper in which the report is wanted, must publish *everything* just as written or sent in by the secretary or the one who writes out the report. Of course, those papers that are mostly local, and have small circulations, must fill up their space in some way, and having little of value to put in, will likely publish a whole lot of things of no interest to any but those who were at the particular convention reported.

For instance, in one report sent for publication there were over two pages of the manuscript devoted to what different ones said as to where the next place of meeting should be. It was then decided to go, for instance, to Podunk. Then at the next session of the same convention, on the same day, the place selected was reconsidered, and it was decided to hold the next meeting at Honeyville. Now, what sense would there be in publishing a whole lot of talk that is of no interest or benefit ny one? Why waste time in writing it out? Why not say that it was decided to hold the next meeting at Honeyville, and let it go at that? That is all any one cares about.

We might multiply illustrations like the above, but it is hardly necessary. What a journal that circulates all over the whole world should publish is simply the *facts* as brought out at a convention. There is necessarily much talk at every convention—talk that, however, is perfectly proper at the time and place, but that is not worth the space it would occupy in print.

In these busy times everything must be boiled down. Sugar-makers don't put maple sap on the market—they first boil it down, and then offer the rich syrup and sugar. And so with convention reports, they need to be boiled down for the busy, up-to-date business man.

Fumigating Combs or Honey.—Bisulphide of carbon has been used to some extent in place of sulphur to fumigate combs more or less infested with worms, and it is likely that its use will become more common. C. Davenport discourses about it in Gleanings in Bee-Culture in such manner as to impress one that he knows whereof he affirms. It is well to have it fully understood that bisulphide of carbon is a dangerous explosive, but Mr. Davenport says there is a great difference in the explosiveness of different samples. Either there are two kinds, or there is a difference in its preparation. What he first had would explode on the approach of a lighted match always before the flame actually toucht the liquid itself. What he obtained later in pound cans at the higher price of 40 cents a pound, altho it seemed equally effective in destroying worms, would only burn slowly without explosion when a lighted match was dropt into it.

Bisulphide of carbon is far ahead of sulphur, in that it destroys eggs and worms of all ages, and apparently with equal facility, for when you find one worm dead you may count all dead, whereas with sulphur it is very difficult to kill other than the smaller worms, and eggs are apparently unaffected by it. But it is important that the bisulphide be rightly used. The combs to be treated must be put in something that can be closed perfectly tight. Then a considerable quantity—say a small tumblerful—must be used; no danger of using too much, for as soon as any of the larvæ are found dead, the bisulphide can be poured back—that is, what is left unevaporated—and it will be as good as ever. The bisulphide is simply left to evaporate in an open dish in the tightly confined space. This better grade of bisulphide seems to have no bad effect upon section honey, and may prove a boon to those who find it necessary to fumigate section honey.

The Weekly Budget

Mr. James A. Stone, of Bradforton, Ill., secretary of the Illinois State Bee-Keepers' Association, has been nominated for the office of State Auditor, on the prohibition ticket. Here's a chance for Illinois bee-keepers, and all others in this State who wish to do so, to vote for a candidate who is not owned or controlled by the liquor crowd—who dares to speak out against that terrible curse—the American saloon—army canteen and all.

* * * * *

Mr. Chas. Clarke is a bee-keeper located about 14 miles south of Chicago. We called on him Friday, July 20. He has some 30 colonies right in the midst of a fine sweet clover region, and his bees were putting up as fine white comb honey as could be found anywhere. He has since taken off 54 sections of beautiful honey from one colony that had the third super about half full besides. He will get a good crop.

Mr. Clarke is a splendid florist as well as careful bee-keeper. His flower-garden is worth going a long way to see. We may have the privilege of showing a picture of it in these columns soon.

Mr. Clarke's father is a justice of the peace, and has been occupying that honorable position for many years. His parents built the house they live in, about 30 years ago, and the three are living together as cosily and happily as can be, the good father and mother nearly 70 years of age, we should judge, yet retaining their youthfulness and vigor to a remarkable degree. That many more happy years may be theirs is our wish.

* * * * *

Dr. C. C. Miller, of McHenry Co., Ill., writing us Aug. 1st, says:

"In this 'locality' the season is anything but a satisfactory one for bee-keepers. It isn't as bad as with Mr. Doolittle, who reports no honey since apple-bloom, which many of us, I am sure, will hear with sincere regret, but the storing has been fitful and unsatisfactory. For once, I think it may be fair to lay the trouble largely to the cool weather. A hot day will come, and bees will work busily, then will come two or three days so cool that winter clothing feels comfortable in the morning and evening. As a rule, I don't believe you can expect much storing when nights threaten frost. When nights are so hot and sultry that you go about trying one spot after another to find a place cool enough to sleep, then is the time you may expect honey to 'give down.' I mean the next day, for of course bees can't be expected to gather much at night, no matter how hot. Clover is the main dependence here, and the usual season for white clover honey is now over, altho much of it is still in blossom, but I don't know whether the bees are getting anything from it. I have taken off less than 500 pounds of honey, all told, and perhaps 20 to 25 pounds to the colony may remain on the hives nearly ready to remove. Whether more is to follow remains to be seen."

* * * * *

Mr. Thomas G. Newman, of San Francisco, Calif., one of the directors of the National Bee-Keepers' Association, wrote us July 23d as follows concerning his inability to attend the Chicago convention, and also in regard to his sadly unfortunate blindness:

Friend York:—I should be delighted to attend the next National convention at Chicago, but the fates are against it, and I must be reconciled to the surrounding conditions, so will dismiss the matter from my mind. I wish you would say to any inquiring friends, at the convention, that I should have been present had it been possible. With my vision so much impaired, it is difficult for me to go around, and unsafe for me to be away from home without some one to guide me. Hence I very seldom go out without my wife, unless it be to cross the street to the postoffice, or something of that kind. I hope that the convention will be a great success. Yours truly, Thomas G. Newman.

Mr. Newman's many old friends will regret very much to learn of his continued affliction, and also that he cannot be at the Chicago convention the last of the present month. All would be glad to take him by the hand once more, and express to him their heartfelt sympathy in his sad affliction. It should be some consolation to Mr. Newman, however, to know that tho far away, and with darkened vision, yet there are many who often think of him with kindly feeling, and wish down deep in their hearts that he might soon have his sight fully restored.

* * * * *

Mr. Anton G. Anderson and His Apiary are shown on the first page this week. He furnishes us with the following:

Editor York:—I was born in Denmark, 27 years ago, and came here when but five years old. Ten or eleven years ago I caught the bee-fever from a farm journal, and of course I was anxious to "try my luck." I think it was in the spring of 1890 that I bought my first colony of bees for which I paid $5.00. It cast two swarms the first season, and they left for parts unknown, which, however, was my own fault.

A year or two after that I purchast three or four colonies, and got hold of "A B C of Bee-Culture," when I studied the habits of the busy bee.

My apiary now consists of 27 colonies in dovetail hives, and a few 12-frame Gallup hives. The dovetail hive is best adapted for comb honey.

There has seldom been a total failure here, as we have always gotten some surplus honey. There is a good market for honey in Council Bluffs and Omaha. The retail grocery men pay 10 to 14 cents per section. These two cities are only 12 or 14 miles from here.

I was successful in wintering my bees in the cellar, till the winter of 1898-99, when two or three of the colonies died. Last winter I did not lose a single colony.

The main honey crop here is from sweet clover, which grows in great abundance on the public highway.

Besides the bees, I also take care of about 50 acres of corn, which keeps me quite busy during the summer months.

The American Fruit and Vegetable Journal is just what its name indicates. Tells all about growing fruits and vegetables. It is a fine monthly, at 50 cents a year. We can mail you a free sample copy of it, if you ask for it. We club it with the American Bee Journal—both papers one year for $1.10.

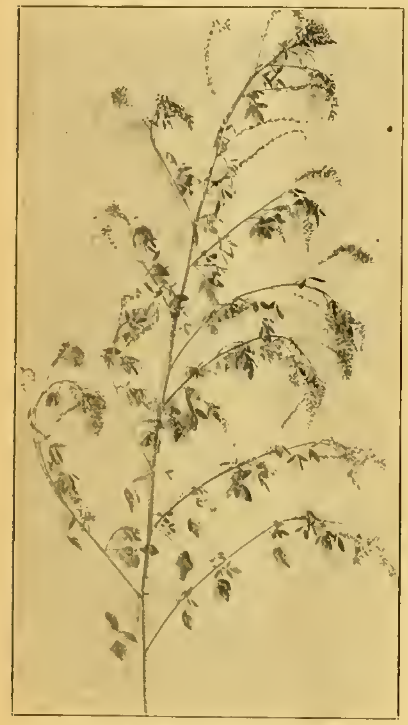
Yellow Sweet Clover Seed

WE HAVE IT AT LAST!

We have finally succeeded in getting a SMALL quantity of the seed of the YELLOW variety of sweet clover. This kind blooms from two to four weeks earlier than the common or white variety of sweet clover. It also grows much shorter, only about two feet in hight. It is as much visited by the bees as the white, and usually comes into bloom ahead of white clover and basswood. We offer the seed as a premium

A QUARTER POUND FOR SENDING ONE NEW SUBSCRIPTION.

So long as it lasts, we will mail a quarter pound of the seed to a regular paid-up subscriber who sends us ONE NEW subscriber for the American Bee Journal one year, with $1.00; or ¼ pound by mail for 30 cents.



Yellow Sweet Clover in Bloom.

We have been trying for years to secure this seed, and finally succeeded in getting it. It is new seed, gathered last season by an old personal friend of ours, so we know it is all right. But we have only a small supply. When nearly out we will mention it.

GEORGE W. YORK & CO.,
118 Michigan St., - CHICAGO, ILL.

Belgian Hares

Pedigreed and Unpedigreed Hares, any age, for sale.

J. S. MESSICK,
LIBERTY, - MISSOURI.
29A4t Please mention the Bee Journal.

If You Want Bees

That will just "roll" in the honey, try **Moore's Strain of Italians**, the result of 21 years of careful breeding. They have become noted for honey-gathering, whiteness of cappings, etc., thruout the United States and Canada.

Warranted Queens, 75c each; 6 for $4.00; 12 for $7.50. Select warranted, $1.00 each; 6 for $5.00; 12 for $9.00. Strong 3-frame Nucleus with warranted Queen, $2.50. Safe arrival and satisfaction guaranteed. Circular free.

27Dtf **J. P. MOORE** (lock box 1) **Morgan, Ky.**
Please mention Bee Journal when writing.

GENERAL ITEMS

A Swarm of B's.

B hopeful, B happy, B cheerful, B kind,
B busy of body, B modest of mind,
B earnest, B truthful, B firm and B fair,
Of all Miss B Haviour B sure to B ware.
B think ere you stumble for what may B fall,
B true to yourself and B faithful to all;
B brave to B ware of the sins that B set,
B sure that one sin will another B get.
B watchful, B ready, B open, B frank,
B manly to all men, whate'er B their rank;
B just and B generous, B honest, B wise,
B mindful of time and B certain it flies.
B prudent, B liberal, of order B fond,
B uy less than you need B fore B uying B yond;
B careful, but yet B the first to B stow,
B temperate, B steadfast, to anger B slow.
B thoughtful, B thankful, whate'er may B tide,
B just and B joyful, B cleanly B side;
B pleasant, B patient, B fervent to all,
B best if you can, but B humble withal.
B prompt and B dutiful, and still B polite;
B reverent, B quiet, B sure to be right;
B calm be retiring, B ne'er led astray,
B grateful, B cautious of those who B tray.
B tender, B loving, B good and B nign,
B loved thou shalt B, and all else B thine.

—Truth.

Bees Doing Fairly Well.

Bees are doing only fairly well. I expect something better later. What a hopeful set of old cranks bee-keepers are, are'nt they? WM. M. WHITNEY.

Kankakee Co., Ill.

Poorest Season for Years.

This has been the poorest season known in this locality for years for white honey, and the prospects are not very flattering for buckwheat.

C. B. HOWARD.

Seneca Co., N. Y., July 28.

Very Light Honey Crop.

The honey crop is very light at points from which I have received a report.

M. B. HOLMES.

Ontario, Canada, July 25.

There Are Others.

EDITOR YORK:—I note your editorial on "Trials of a Bee-Supply Dealer," on page 361. Of course, you meet cranks, and some souls smaller than a grain of mustard seed. Long ago I gave up the belief that every individual has a soul. I frequently meet men who have none—not even a trace of a soul. Don't you? But I want to furnish a counterpart to your article—to note some of the trials of a purchaser of supplies.

The beginning of every transaction is in part wrong. I part with the price of the supplies in clean cash, without opportunity to see them, or count them. I don't like this, but we can't do better. It is a pleasure to me to pay for an article on delivery. But to pay days, or weeks, beforehand, and then be at the mercy of the shop-boy to count, to pack, to address, etc., I do not like.

I am now using 1,000 brood-frames cut half an inch too short in the top-bar. The frames, and the brood-chambers I am using them in, came from the same manufacturer, in the same shipment. There is no reasonable excuse for such blundering.

In 1897 I remitted cash with order for 2,000 sections of special size in the month of July, stating I needed them

DITTMER'S FOUNDATION

Wholesale and Retail

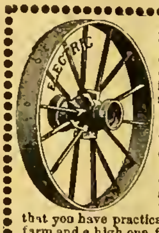
This foundation is made by an absolutely non-dipping process, thereby producing a perfectly clear and pliable foundation that retains the odor and color of beeswax, and is free from dirt.

Working wax into foundation for cash, a specialty. Write for samples and prices.

A full line of Supplies at the very lowest prices, and in any quantity. Best quality and prompt shipment. Send for large, illustrated catalog.

GUS. DITTMER, Augusta, Wis.
Beeswax Wanted.

Please mention Bee Journal when writing.



ALL THE ADVANTAGES of a low down wagon, such as ease of loading, saving of heavy lifting, saving the land from cutting up and rutting, are derived from using a set of

Electric Steel Wheels

They convert your old wagon into a low down handy wagon at the lowest possible cost. They are made of steel with either direct or staggered oval steel spokes. They are made in sizes to fit any wagon. A set of these wheels means that you have practically two wagons:—A low one for the farm and a high one for the roads. Any height you want, and all wide, non-rutting, easy draft tires. Write at once for catalogue, prices, etc.

Electric Wheel Co., Box 16, Quincy, Ill.

Please mention Bee Journal when writing

High Grade Italian Queens

One Untested Queen	$ .60
One Tested Queen	.80
One Select Tested Queen	1.00
One Breeder	1.50
One-Comb Nucleus	1.00

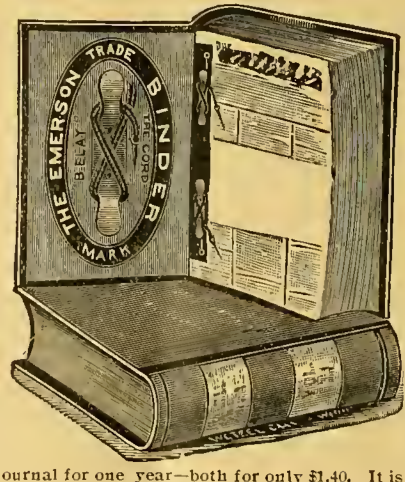
27 Years Rearing Queens for the Trade.

We Guarantee Safe Arrival.

J. L. STRONG,
14Atf CLARINDA, Page Co., IOWA.
Please mention Bee Journal when writing.

The Emerson Binder

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.


THE EMERSON TRADE BINDER MARK

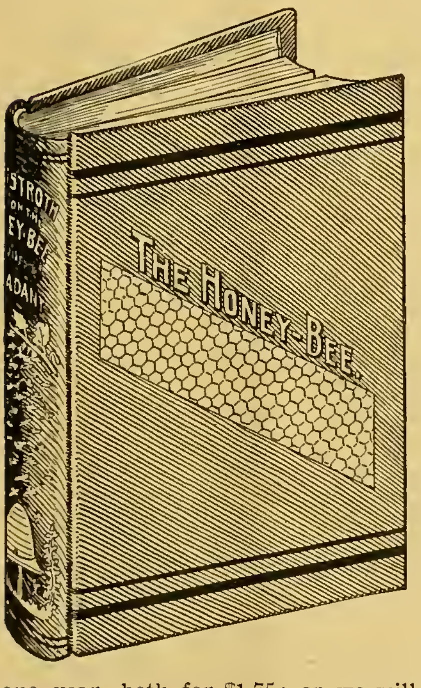
GEORGE W. YORK & CO.
118 Michigan Street, CHICAGO, ILL.

Langstroth on... The Honey-Bee

Revised by Dadant—1899 Edition.

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains over 500 pages, being revised by those large, practical bee-keepers, so well-known to all the readers of the American Bee Journal—Chas. Dadant & Son. Each subject is clearly and thoroly explained, so that by following the instructions of this book one cannot fail to be wonderfully helpt on the way to success with bees.

The book we mail for $1.25, or club it with the American Bee Journal for one year—both for $1.75; or, we will mail it as a premium for sending us THREE NEW subscribers to the Bee Journal for one year, with $3.00.


STROTH ON THE EY-BEE ADAN
THE HONEY-BEE.

This is a splendid chance to get a grand bee-book for a very little money or work.

GEORGE W. YORK & CO.
118 Michigan Street, - CHICAGO, ILL.

PATENT WIRED COMB FOUNDATION
Has no Sag in Brood-Frames.
Thin Flat-Bottom Foundation
Has no Fishbone in the Surplus Honey.
Being the cleanest is usually workt the quickest of any foundation made.
J. A. VAN DEUSEN,
Sole Manufacturer,
Sprout Brook, Montgomery Co., N.Y.

Please mention Bee Journal when writing advertisers.

quickly, and would appreciate a prompt shipment. The firm kept my money, made no explanation, and at the end of 3 weeks sent the sections. Had they been manly enough to say, "We can't fill your order," this would have been honest. The other course was not.

I often deal with a firm that sends out first-class goods as a rule. Once in a while something snide turns up. But they never send a bill of the articles purchast, whether the order be for 10 dollars or a hundred. And their count is, in a majority of instances, at fault, tho not seriously. This proves that the counting and packing is done by a careless subordinate. The goods are not checkt up in a business way. Often a weak box is used, good enough for a 50-mile shipment, but inadequate for 500 miles of handling. A business man would not permit such things to occur. I could lengthen the list, but you don't want long articles.

The cranks you complain of will always be with us. We can't get rid of them. But the class of little wrongs I complain of can easily be corrected. There are only a few supply dealers. They have more than average intelligence. A little proper criticism would cure them. I believe all of them have souls, and a cure is therefore possible.

F. W. DeBusk.

Las Animas Co., Colo.

[Mr. DeBusk, do *you* ever make mistakes? And are any of them wholly inexcusable? We believe they are, for *we* make just such mistakes ourselves—perfectly inexcusable. So does everybody else, But, like all should do, we are *trying* to get them down to a minimum—always "going on to perfection." And we don't expect to arrive at the destination called Perfection, in this life.

We know that many of the errors committed by bee-supply dealers are very annoying to the customer, and they are just as provoking to the honest, conscientious dealer when brought to his notice.

We would not attempt to shield the wilfully negligent and careless dealer or his subordinates, but we do bespeak the exercise of charity for the man or firm who *tries* to do right and yet occasionally makes mistakes. We are all human.—Editor.]

Sweet Clover in Ontario, Canada.

People can call sweet clover a weed if they like, but up in this country it's a blessing to have it. We have only a little of it, but cattle eat it as readily as the best of grasses. Do you suppose it would cure for hay?

Ontario, Canada. W. D. Harris.

[Yes, of course it is cured for hay. On page 470 Dr. Miller mentions it.—Editor.]

White Clover a Failure.

There is no linden in our locality, and as white clover (which is our main dependence) has been a total failure this season, progress at queen-rearing has been very materially interrupted.

CRIMSON CLOVER
And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Crimson Clover	70c	1.20	2.75	5.00
Alsike Clover	80c	1.50	3.50	6.50
White Clover	90c	1.70	3.75	6.50
Alfalfa Clover	80c	1.40	3.25	6.00

Prices subject to market changes.
Add 25 cents to your order, for cartage, if wanted by freight.

GEORGE W. YORK & CO.
118 Michigan Street, - CHICAGO, ILL.

☞ IF YOU WANT THE
BEE-BOOK
That covers the whole Apicultural Field more completely than any other publisht, send $1.25 to Prof. A. J. Cook, Claremont, Calif., for his
Bee-Keepers' Guide.
Liberal Discounts to the Trade.

Best on Earth
What? Our New Champion Winter-Case. And to introduce it thruout the United States and Canada we will sell them at a liberal discount until Oct. 15, 1900. Send for quotations. We are also headquarters for the No-Drip Shipping-Cases.
R. H. SCHMIDT & CO.
Sheboygan, Wisconsin.

GINSENG We are Headquarters for Seed & Plants.
Valuable book about it, telling how to grow thousands of dollars worth, what used for and who is growing it. Sent for 10c
AMERICAN GINSENG GARDENS, ROSE HILL, New York.
20E8t Mention the American Bee Journal.

Belgian Hare Guide AND DIRECTORY OF BREEDERS. Price 25c.
Inland Poultry Journal Co., Indianapolis, Ind.

BEE-SUPPLIES!
☞ Root's Goods at Root's Prices ☜
Pouder's Honey-Jars and everything used by bee-keepers. Prompt Service—low freight rate. Catalog free. WALTER S. POUDER,
512 Mass. Ave., Indianapolis, Ind.

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CHEAP FARM LANDS
Located on the Illinois Central R.R. in
SOUTHERN ILLINOIS
And also located on the Yazoo & Mississippi Valley R.R. in the famous
YAZOO VALLEY
of Mississippi—specially adapted to the raising of
CORN AND HOGS.
Soil Richest in the World.
Write for Pamphlets and Maps.
E. P. SKENE, Land Commissioner,
Ill. Cent. R.R. Co., Park Row, Room 413,
24A24t CHICAGO, ILL.
Please mention Bee Journal when writing.

The Bee-Keeper's
Guide
Or, Manual of the Apiary,
—BY—
PROF. A. J. COOK.

460 Pages—16th (1899) Edition—18th Thousand—$1.25 postpaid.

A description of the book here is quite unnecessary—it is simply the most complete scientific and practical bee-book publisht to-day. Fully illustrated, and all written in the most fascinating style. The author is also too well-known to the whole bee-world to require any introduction. No bee-keeper is fully equipt, or his library complete, without THE BEE-KEEPERS' GUIDE.

This 16th and latest edition of Prof. Cook's magnificent book of 460 pages, in neat and substantial cloth binding, we propose to GIVE AWAY to our present subscribers, for the work of getting NEW subscribers for the American Bee Journal.

Given for TWO New Subscribers.

The following offer is made to PRESENT subscribers only, and no premium is also given to the two NEW subscribers—simply the Bee Journal for one year:

Send us TWO NEW SUBSCRIBERS to the Bee Journal (with $2.00), and we will mail you a copy of Prof. Cook's book FREE as a premium. Prof. Cook's book alone sent for $1.25, or we club it with the Bee Journal for a year—both for only $1.75. But surely anybody can get only TWO NEW SUBSCRIBERS to the Bee Journal for a year, and thus get the book as a premium. Let everybody try for it. Will YOU have one?

GEORGE W. YORK & CO.,
118 Michigan Street, CHICAGO, ILL.

BY RETURN MAIL.
Golden Beauty Italian Queens,
Reared from imported mothers.

Untested, 50 cts.; 12 Untested, $5.50; Tested, $1.
J. S. TERRAL & CO., Lampasas, Texas.
18Atf Please mention the Bee Journal.

I have been obliged to feed more or less ever since last spring. A single colony of bees could not have gathered enough from the fields to make a living at any time when white clover ought to have been at its hight.

We have just had several good rains, and if the weather is favorable bees will gather enough from sweet clover to winter on, for which we shall be thankful. H. G. QUIRIN.

Erie Co., Ohio, July 27,

Not Storing Much Surplus.

Bees here are not storing much surplus, and there has been no swarming worth speaking of. Wet weather is the cause. The prospect from now on looks favorable. J. C. SMAIL.

Hancock Co., Ind., July 22.

Some Hints—Wise and Otherwise.

IF IT IS SO that in the city of Santa Fe, New Mexico, there are no rats, mice or cats, because of the too rarified air of that locality, the pertinent question would be, How, then, is it possible for people and other animals to live there?

THOSE ZULUS in Africa have a fine sense of propriety. It is said they decorate the graves of their dead with the empty and partly-filled bottles of medicines the doctors supply. It is a covert suggestion that requires no X-rays to make clear.

PRINTERS' INK contains some deleterious elements—just what it is I don't know. But this is an establisht fact, that newspapers and other printed matter, when used for toilet purposes, is one of the greatest factors in the production of piles.

And while on this subject, I wish to note the result of an accident to my

Sharples Cream Separators: Profitable Dairying

DR. PEIRO.
34 Central Music Hall, CHICAGO.

Please mention Bee Journal when writing.

The Mississippi Valley Democrat
—AND—
Journal of Agriculture,
ST. LOUIS MO.

A wide-awake, practical Western paper for wide-awake, practical Western farmers, stock-raisers, poultry people and fruit-growers, to learn the science of breeding, feeding and management. Special departments for horses, cattle, hogs, sheep, poultry and dairy. No farmer can afford to do without it.

It stands for American farmers and producers. It is the leading exponent of agriculture as a business, and at the same time the champion of the Agricultural States and the producer in politics. **Subscription, One Dollar a Year.**

☞ **Write for Sample Copy**

Please mention Bee Journal when writing.

Seasonable Offerings Golden Yellow Italian Queens

Now is the time to improve your strain of bees. The Queens I offer are the finest in the land. I sold quite a number this season and all are delighted with the quality and so will you be, at 75 cents each, by return mail.

60-pound Cans, two to Crate.

I have 400 crates of two 60-pound cans each that were used once, and are nearly as good as new. I offer until this lot is exhausted at 50c per crate, or 10 crates at 45c each. New crates of two 60-pound cans each cost 85c. Speak quick. Root's goods at Root's prices, also Muth's Jars. Send for Catalog. HONEY AND BEESWAX WANTED. C. H. W. WEBER,
2146 Central Ave., Cincinnati, Ohio.

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ARE YOU FULL OF GINGER? If you want health and vigor, good appetite and sound sleep, take LAXATIVE NERVO-VITAL TABLETS, the quick and safe cure for Constipation, Nervous Dyspepsia, Insomnia, Nervous Affections, the "Blues" and all attendant evils. It aids digestion, purifies the blood, strengthens the nerves, improves the appetite, induces sweet sleep, tones up the whole system and makes you a new creature. It not only makes you *feel* well, it makes you *really* well. It gives you that vim and vigor which makes life worth living.

LAXATIVE NERVO-VITAL TABLETS

It contains no narcotics nor bromides nor other injurious drugs. We give the formula with every box. You know exactly what you are taking. Originally put up for physicians' use. Ask your druggist for a FREE SAMPLE. If he hasn't it, don't take a substitute, but send us a stamp for our book on "Health" and we will send you a free sample, sufficient for you to try it and test its merits to your own satisfaction. *Isn't it worth trying free?* It positively cures. Price 10c and 25c per box. Don't delay sending.

The Modern Remedy Co., Kewanee, Ill.

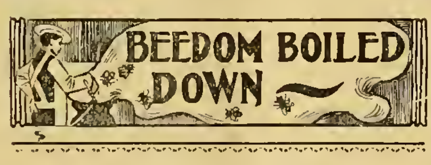
bees. I placed some broken combs on a newspaper, and there being considerable honey left on it after removing the combs to another place, I concluded to let the bees eat the honey rather than waste it. They soon devoured the nectar, but lo! and behold, when all the honey was gone, some bees were left—quite a few of them—dead as a doornail! Now, what killed them so quickly if not the printer's ink with which the newspaper was printed?

Enlarged Tonsils, especially if they have been diseased for a year or more, should be removed. No possible harm can occur if properly excised, and great permanent good is certain to result. The fear of pain is the cause of greatest objection, but in reality the danger or suffering is not as great as that of having a tooth extracted, if done by an experienced surgeon.

Running of the Ears is not the harmless occurrence that some people think, but quite unfortunate in results. It is usually due to suppuration and destruction of the contents of the internal, or middle ear, involving the drum and three little bones that connect with the drum to produce sound. Scarlet fever, measles and whooping-cough are the three greatest factors of this condition. Continued neglect of this discharge is absolutely certain to result in permanent deafness.

Why Is It the breath becomes shorter as we ascend high altitudes? Because but an insufficient amount of oxygen can be inhaled. The carbonic acid generated from our waste tissues remains to maintain the blood sluggish, thus impairing the circulation. It is this state of affairs that causes what we experience as shortness of breath. If this condition is continued the carbonic acid retained in the system transforms the muscles into fat to an extent sufficient to prevent their natural elasticity, and the result is a form of affliction termed "mountain rheumatism." The muscles of the heart, also, become sandwicht, as it were—"fatty infiltration," doctors term it—producing insufficient force of the heart to pump the blood thruout the body. The lungs are, therefore, not promptly relieved, and the short breathing ensues. In time the heart enlarges by dilation, because of its own weak action, and finally the end comes.

Dr. Peiro.



Workers Laying Eggs at Will.—There has been much discussion as to whether worker-bees could lay eggs at will, or whether they were enabled to perform this act from the kind or quantity of food furnisht them while in the larval state. To aid in the solution of this problem, Mr. Arthur C. Miller, of Rhode Island, made the following experiment: He formed a nucleus of bees sufficient to cover four Langstroth combs. Three of these combs were dry, empty combs, while the fourth contained honey and pollen alione. Ths

SPECIAL NOTICE!

Last winter's cut of basswood is the whitest it has been for many seasons. We are now making sections out of this new stock and therefore are in a position to furnish you with the very finest quality in the market.

LEWIS WHITE-POLISHT SECTIONS

Are perfect in workmanship and color.

Orders shipt immediately upon receipt. A complete line of everything needed in the apiary. Five different styles of Bee-Hives.

Lewis Foundation Fastener simplest and best machine for the purpose. Price, ONE DOLLAR, without Lamp.

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Four Celluloid Queen-Buttons Free

AS A PREMIUM.

OUR TOIL DOTH SWEETEN OTHERS

OUR TOIL DOTH SWEETEN OTHERS

For sending us ONE NEW SUBSCRIBER to the Bee Journal for the balance of this year, with 50 cents, we will mail you FOUR of these pretty buttons for wearing on the coat-lapel. (You can wear one and give the others to the children.) The queen has a golden tinge. This offer is made only to our present regular subscribers.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey: at any rate, it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

Prices of Buttons alone, postpaid: One button, 8 cts.; 2 buttons, 6 cts. each; 5 or more, 5 cts. each. (Stamps taken.) Address,

GEORGE W. YORK & CO., 118 Michigan St., CHICAGO.

QUEENS!

Untested Queens, Italian, 60 cents. Tested, $1.00.
From honey-gathering stock.
We keep in stock a full line of popular Apiarian Supplies. Catalog free.

Apiaries—Glen Cove, L. I. J. STRINGHAM, 105 Park Place, New York, N. Y.

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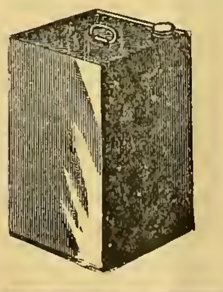
Second-Hand 60-pound Tin Cans Cheap!



We have a stock of second-hand 60-pound Tin Cans, put up two in a box, which are practically as good as new, each can having been carefully inspected by an expert honey-man before boxing them. While they last, we can furnish them at these low prices just about one-half the cost of new cans:

5 boxes (or 10 cans) 50 cents per box; 20 boxes or over, 45 cents per box; 100 boxes or over, 40 cents per box.

Address, cash with order,

GEORGE W. YORK & CO.
118 Michigan Street, CHICAGO, ILL.

Queens UNTESTED ITALIAN, 50 cents each; tested, $1 each. Queens large, yellow and prolific. Circular free.
21Atf Address, E. W. HAAG, Canton, Ohio.

M. H. HUNT & SON,
SELL ROOT'S GOODS AT ROOT'S PRICES.
Our inducements are first-class goods, cheap freight rates, and prompt shipments. Send for catalog.
BELL BRANCH, MICH.

25 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 25 cents a pound—CASH—for best yellow, upon its receipt, or 28 cents in trade. Impure wax not taken at any price. Address as follows, very plainly,

GEORGE W. YORK & CO., 118 Michigan St., CHICAGO.

BEE-BOOKS

SENT POSTPAID BY

George W. York & Co. 118 Mich. St. Chicago.

Bees and Honey, or Management of an Apiary for Pleasure and Profit, by Thomas G. Newman.—It is nicely illustrated, contains 160 pages, beautifully printed in the highest style of the art, and bound in cloth, gold-lettered. Price, in cloth, 75 cents; in paper, 50 cents.

Langstroth on the Honey-Bee, revised by Dadant.—This classic in bee-culture has been entirely re-written, and is fully illustrated. It treats of everything relating to bees and bee-keeping. No apiarian library is complete without this standard work by Rev. L. L. Langstroth—the Father of American Bee-Culture. It has 520 pages, bound in cloth. Price, $1.25.

Bee-Keepers' Guide, or Manual of the Apiary, by Prof. A. J. Cook, of the Michigan Agricultural College.—This book is not only instructive and helpful as a guide in bee-keeping, but is interesting and thoroly practical and scientific. It contains a full delineation of the anatomy and physiology of bees. 460 pages, bound in cloth and fully illustrated. Price, $1.25.

Scientific Queen-Rearing, as Practically Applied, by G. M. Doolittle.—A method by which the very best of queen-bees are reared in perfect accord with Nature's way. Bound in cloth and illustrated. Price, $1.00.

A B C of Bee-Culture, by A. I. Root.—A cyclopædia of 400 pages, describing everything pertaining to the care of the honey-bees. Contains 300 engravings. It was written especially for beginners. Bound in cloth. Price, $1.20.

Advanced Bee-Culture, Its Methods and Management, by W. Z. Hutchinson.—The author of this work is a practical and entertaining writer. You should read his book; 90 pages, bound in paper, and illustrated. Price, 50 cents.

Rational Bee-Keeping, by Dr. John Dzierzon.—This is a translation of his latest German book on bee-culture. It has 350 pages, bound in paper covers, $1.00.

Bienen-Kultur, by Thos. G Newman.—This is a German translation of the principal portion of the book called "Bees and Honey." 100-page pamphlet. Price, 25 cents.

Bienenzucht und Honiggewinnung, nach der neuesten methode (German) by J. F. Eggers.—This book gives the latest and most approved methods of bee-keeping in an easy, comprehensive style, with illustrations to suit the subject. 50 pages, board cover. Price, 50 cents.

Bee-Keeping for Beginners, by Dr. J. P. H. Brown, of Georgia.—A practical and condenst treatise on the honey-bee, giving the best modes of management in order to secure the most profit. 110 pages, bound in paper. Price, 50 cts.

Bee-Keeping for Profit, by Dr. G. L. Tinker.—Revised and enlarged. It details the author's "new system, or how to get the largest yields of comb or extracted honey." 80 pages, illustrated. Price, 25 cents.

Apiary Register, by Thomas G. Newman.—Devotes two pages to a colony. Leather binding. Price, for 50 colonies, $1.00; for 100 colonies, $1.25.

Dr. Howard's Book on Foul Brood.—Gives the McEvoy Treatment and reviews the experiments of others. Price, 25 cents.

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Foul Brood Treatment, by Prof. F. R. Cheshire.—Its Cause and Prevention. Price, 10 cts.

Foul Brood, by A. R. Kohnke.—Origin, Development and Cure. Price, 10 cents.

Capons and Caponizing, by Dr. Sawyer, Fanny Field, and others.—Illustrated. All about caponizing fowls, and thus how to make the most money in poultry-raising. 64 pages. Price, 20c.

Our Poultry Doctor, or Health in the Poultry Yard and How to Cure Sick Fowls, by Fanny Field. Everything about Poultry Diseases and their Cure. 64 pages. Price, 20 cents.

Poultry for Market and Poultry for Profit, by Fanny Field.—Tells everything about Poultry Business. 64 pages. Price, 20 cents.

BEES QUEENS
Smokers, Sections,
Comb Foundation
And all Apiarian Supplies
cheap. Send for
FREE Catalogue. E. T. FLANAGAN, Belleville, Ills.

Please mention Bee Journal when writing.

was done on the 5th of May. On the 12th the first eggs appeared; on the 15th they were abundant; three days later they had all of the symptoms of a colony badly afflicted with laying-workers. Unless some of the bees from which the nucleus was stockt had been reared in a colony where queens were being reared, it would seem that this experiment proved that workers would lay eggs at will.—Bee-Keepers' Review.

Using Tobacco-Smoke on Bees.—Tobacco-smoke for the purpose of handling bees should be used very sparingly and carefully. It is hardly safe to advise beginners to use it, for its effect is to stupefy the whole colony; and if the fumes are administered during the day there will be an hour, or two hours, perhaps, when the bees, slightly intoxicated, would put up no defense whatever at the entrances. If, during the robbing season, they would allow robbers to come right in pellmell and help themselves; hence tobacco-smoke is recommended for use only at night. But even then I suspect the introduction of queens could be accomplisht almost as well without the weed.

The best time to introduce queens is toward night. We once releast two dozen queens right among the bees, and every one was accepted. The queens in this case were some that came thru the mails, badly daubed, and reacht us just at nightfall. Nothing remained but to let the queens run loose and take their chances, and we were very greatly surprised the next morning to find all of them apparently nicely accepted.

In peculiarly stubborn cases tobacco-smoke may be used, especially where the bees are determined to ball the queen, and we have positive evidence that the bees are queenless. I have made a colony so "beastly drunk" (pardon the expression) that when the bees finally recovered from their spree they accepted the queen, when before that they would ball her on sight.

Our practice now is to use tobacco-smoke only during fair-time, for, unfortunately, our county fair-grounds are within an eighth of a mile of our apiary; and during the time the stands are making taffy, selling watermelons, lemonade, and the like, our bees would prove to be a great nuisance unless we went around to all the hives and gave a smudging of tobacco-smoke. This is done in the morning, about 8 o'clock, and another dose is given about 1 o'clock. Half a dozen puffs of smoke are blown in at the entrances, all over the hives. If the colonies *are all* stupefied there will be no danger from robbing. This smudging keeps the bees at home. But care should be exercised, as there is danger of overdoing it, and also danger of not doing *enough* of it; for if they have once got a taste of the sweets over at the fair-ground it takes a great deal of stupefying to keep them at home.—E. R. ROOT, in Gleanings in Bee-Culture.

Boiling Honey to Disinfect.—Honey, to be boiled and disinfected, should have a little water added to it, so that when it has been boiled an hour or so it will still have the same consistency it did before it was boiled. Ordinary thick honey placed on the stove would be apt to boil all over, and it should be thinned down very materially before any attempt at heating has been made. No, there would be danger, I think, of bees getting foul brood at an ordinary drinking-trough. So far as I know, the disease is conveyed only thru the honey or the old combs that have been in diseased hives. It may be carried on the clothing of bee-keepers, but nine times out of ten it is carried by robber-bees from infected honey.—Gleanings in Bee-Culture.

Rocky Mountain Bee-Plant Seed!

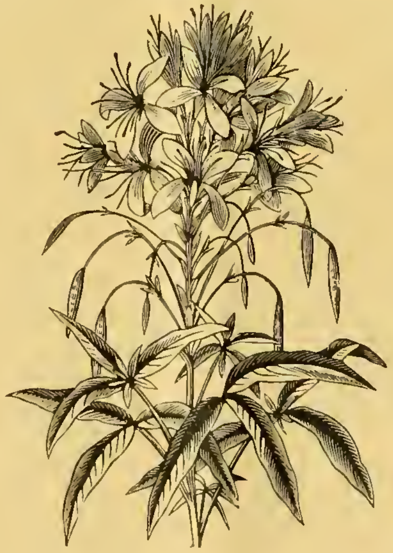
(*Cleome integrifolia.*)

...FREE AS A PREMIUM...

The A B C of Bee-Culture says of it: "This is a beautiful plant for the flower-garden, to say nothing of the honey it produces. It grows fromtwo to three feet in hight and bears large, clusters of bright pink flowers. It grows naturally on the Rocky Mountains, and in Colorado, where it is said to furnish large quantities of honey."

We have a few pounds of this Cleome seed, and offer to mail a ¼-pound package as a premium for sending us ONE NEW subscriber to the American Bee Journal, with $1.00; or ¼ pound by mail for 40 cents.

GEORGE W. YORK & CO.
118 Michigan St. CHICAGO ILL.



PAGE

JULY 1st WE CUT
prices, and bettered the quality of Page Fences.
Write for New Price List, or see our agent.
PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.

Albino Queens by return mail. Untested, 75 cts.; warranted, $1.00; tested, $1.25.
12A26t J. D. GIVENS, LISBON, TEX.

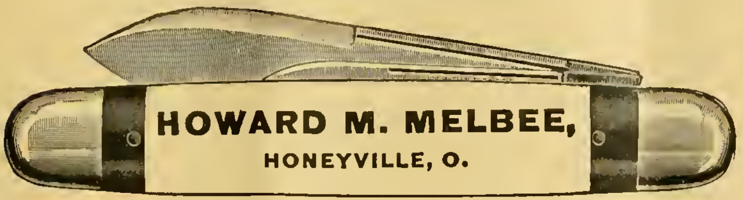
Italian Queens.

	1	3	6
Untested Queens..............	$0.90	$2.50	$4.50
Select Untested Queens........	1.25	3.25	6.00
Tested Queens..................	1.25	3.50	7.00
Select Tested Queens	2.00	5.00	9.00

These Queens are reared from honey-gatherers. Orders filled in rotation. Nothing sent out but beautiful Queens.
27A9t D. J. BLOCHER, Pearl City, Ill.

The Novelty Pocket-Knife.

Your Name and Address on one side—Three Bees on the other side.



[THIS CUT IS THE FULL SIZE OF THE KNIFE.]

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and in case of death, your relatives will at once be notified of the accident.

How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

How to Get this Valuable Knife.—We send it postpaid for $1.10, or give it as a Premium to the one sending us THREE NEW SUBSCRIBERS to the Bee Journal (with $3.00.) We will club the Novelty Knife and the Bee Journal for one year, both for $1.90.

GEORGE W. YORK & CO., 118 Mich. St., Chicago, Ill.

☞Please allow about two weeks for your knife order to be filled.

FREE FOR A MONTH....

If you are interested in Sheep in any way you cannot afford to be without the best Sheep Paper publisht in the United States.

Wool Markets and Sheep

has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.

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The Fannie Field Poultry Pamphlets Cheap.

We will mail you your choice of any of the following 64-page poultry pamphlets at **10 cents each, or all 3 for only 25 cents**—while they last:

POULTRY FOR MARKET.—It is written for those who wish to make poultry-raising profitable.

CAPONS AND CAPONIZING.—It shows in clear language and by illustrations all the particulars about caponizing fowls, and thus how to make the most money out of them. Every up-to-date poultry-keeper should have it.

OUR POULTRY DOCTOR, or, Health in the Poultry Yard, and How to Cure Sick Fowls. All about poultry diseases and their cure.

Remember, we mail the above at 10 cents each, or all three for 25 cents; or for $1.10 we will mail the three pamphlets and credit your subscription to the American Bee Journal for one year. Address,

GEORGE W. YORK & CO.,
118 Michigan Street, CHICAGO, ILL.

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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, July 7.—Some new white comb honey is selling at 15c; not much offered and not much demand for it. Extracted is slow sale; best white, 7@7½c; best amber, 6½@6¾c; dark amber, 5@5½c. Beeswax, 27@28c.
R. A. BURNETT & Co.

CINCINNATI, July 20.—White extracted honey, 7@7½c; southern extracted, 5¾@6½c, owing to quality. No comb honey on market. Good demand for beeswax at 25@27c.

Shipments of extracted honey from the South are more numerous than a few weeks ago, but we find it hard to make sales, owing to a slow demand. C. H. W. WEBER, 2146 Central Ave.

BUFFALO, July 20.—For strictly fancy white one-pound comb honey we are getting 16@17c. Any grade sells high—10@15c, as to grade.
BATTERSON & Co.

KANSAS CITY, July 20.—We quote: New No. 1 white comb, 14@15c; No. 1 amber, 14c; dark, 13c. Extracted, old, 6@6½; no new in market. Beeswax, 22@25c. C. C. CLEMONS & Co

DETROIT, July 24.—Fancy white comb, 15@16c; No 1, white, 14@15c; amber and dark, 10@12c. Extracted, white, 7c; amber and dark, 5@6c. Beeswax, 25@26c.

Supply and demand for honey both limited.
M. H. HUNT & SON.

NEW YORK, July 26.—There is a fair demand for white comb honey, and enough arriving from the South to supply the demand. Fancy white sells at 15c; No. 1 white, 13@14c; No. 2 white, 11@12c. Extracted remains rather quiet, and the market is sufficiently stockt to meet the demand. Beeswax very firm at 28@29c.
HILDRETH & SEGELKEN.

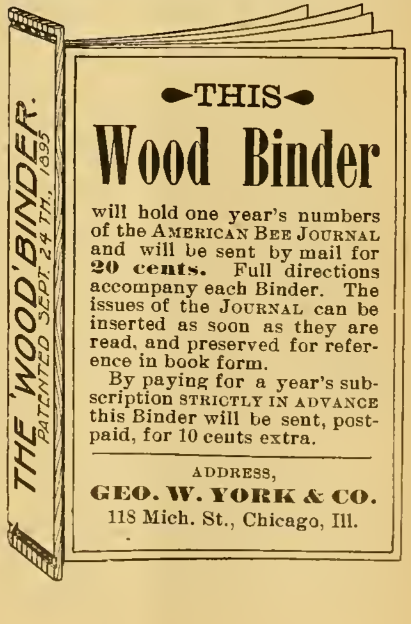
SAN FRANCISCO, July 18.—White comb, 12@12½c; amber, 9@11; dark, 6½@7½c. Extracted, white, 7½@8c; light amber, 7@7¼c; amber, 6@6½c. Beeswax, 26@27c.

Amber grades are in fair supply, both comb and extracted, and there is a moderate business doing in the same at prevailing figures, mostly in a small jobbing way and on local account. Large dealers are purchasing only to fill immediate orders, not caring to stock up at present prices. Water-white honey is scarce and in a limited way is salable at tolerably stiff figures.

WANTED—HONEY AND BEESWAX.

We have a tremendous and growing trade in this line, and would like to hear from all who have such goods to sell in any part of the country, with quality, description, and lowest cash price. THOS. C. STANLEY & SON, Fairfield, Ill.

WANTED COMB HONEY AND EXTRACTED HONEY. Will buy your honey, no matter what quantity. Mail sample with your price expected delivered in Cincinnati. I pay cash on delivery. C. H. W. WEBER, 2146 Central Ave., CINCINNATI, OHIO.



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Wood Binder

will hold one year's numbers of the AMERICAN BEE JOURNAL and will be sent by mail for **20 cents.** Full directions accompany each Binder. The issues of the JOURNAL can be inserted as soon as they are read, and preserved for reference in book form.

By paying for a year's subscription STRICTLY IN ADVANCE this Binder will be sent, postpaid, for 10 cents extra.

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GEO. W. YORK & CO.
118 Mich. St., Chicago, Ill.

We have a Large Stock on hand and can ship promptly.

SEND US YOUR ORDERS FOR

Hives, Extractors

OR ANYTHING YOU WANT IN THE BEE-KEEPING LINE.

WE MAKE ONLY THE BEST.

Our Falcon Sections and New Process Foundation are ahead of everything, and cost no more than other makes. New Catalog and copy of THE AMERICAN BEE-KEEPER free. Address,

THE W. T. FALCONER MFG. CO.,
JAMESTOWN, N. Y.

☞ W. M. GERRISH, East Notingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.

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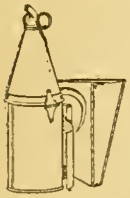
MADE TO ORDER.

BINGHAM BRASS SMOKERS

made of sheet-brass which does not rust or burn out should last a life-time. You need one, but they cost 25 cents more than tin of the same size. The little pen cut shows our brass hinge put on the three larger sizes.



No wonder Bingham's 4-inch Smoke Engine goes without puffing and does not

DROP INKY DROPS.

The perforated steel fire-grate has 381 holes to air the fuel and support the fire.

Prices; Heavy Tin Smoke Engine, four-inch Stove, per mail, $1.50; 3½-inch, $1.10; three-inch, $1.00; 2½-inch, 90 cents; two-inch, 65 cents.

Direct-Draft Perfect
BINGHAM
BeeSmoker
PATENTED

BINGHAM SMOKERS

are the original, and have all the improvements, and have been the STANDARD OF EXCELLENCE for 22 years. Address,

T. F. BINGHAM,
Farwell, Mich.

I ARISE

To say to the readers of the BEE JOURNAL that

DOOLITTLE...

has concluded to sell **QUEENS** in their season during 1900, at the following prices:

1 Untested Queen ..	$1.00
3 Untested Queens..	2.25
1 Tested Queen	1.25
3 Tested Queens....	3.00
1 select tested queen	1.50
3 " " Queens	4.00
Select Tested Queen, last year's rearing.	2.50
Extra selected breeding, the **very best**..	5.00

Circular free, giving particulars regarding each class of Queens, conditions, etc. Address,

G. M. DOOLITTLE,
11A26t Borodino, Onondaga Co., N. Y.

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23rd Year **Dadant's Foundation.** 23rd Year

Why does it sell so well?

Because it has always given better satisfaction than any other.
Because **in 23 years** there have not been any complaints, but thousands of compliments.

We guarantee satisfaction.

What more can anybody do? **BEAUTY, PURITY, FIRMNESS, No SAGGING, No LOSS. PATENT WEED PROCESS SHEETING.**

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

BEE-KEEPERS' SUPPLIES OF ALL KINDS.

Langstroth on the Honey-Bee, Revised.

The Classic in Bee-Culture—Price, $1.25, by Mail.

Beeswax Wanted at all times.

CHAS. DADANT & SON,
Hamilton, Hancock Co., Ill.

Please mention Bee Journal when writing.

DR. MILLER'S

Honey Queens

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AMERICAN BEE JOURNAL.

ESTABLISHT IN 1861 — OLDEST BEE-PAPER IN AMERICA

DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS.

40th YEAR. CHICAGO, ILL., AUGUST 16, 1900. No. 33.

CONTRIBUTED ARTICLES

Preserving Combs from Moths—Caging Queens.

BY G. M. DOOLITTLE.

WILL you please tell us thru the columns of the American Bee Journal how to keep combs during the summer months from being eaten up by the larvæ of the wax-moth, when we wish to preserve those from which the bees have died during the winter? I have several hundred such, so I am anxious to know.

Answer.—In the March number of the American Bee-Keeper I find the following, which was given by Frank Benton at the December meeting of the Ontario County (N. Y.) Bee-Keepers' Association, held at Canandaigua:

> Place an empty brood-chamber on top of a stack of combs, and therein place a dish with a little bisulphide of carbon, then cover up tight; the liquid will transform into gas and kill every living thing within the stack of hives.

I have this down in my reference book, and whenever I have any combs to preserve in the future I shall try it, but as I have none not covered with bees the present summer, I could not vouch for the truth in the matter, further than that it comes from good authority.

Fumigation with burning sulphur has been the former way, and as this has workt well with me I will give it, together with some other ways of working, so the questioner can try it by the side of the Benton plan, and thus find out which he likes best. If he wishes to keep his combs for an indefinite period, they should be fumigated and stored away afterward where the female moth can not have access to them. But where such combs can be used during June and the forepart of July fumigation may not be necessary.

For storing combs from which the bees have died during the previous winter, my plan is to store them in some dry, airy room, where they can be hung two or more inches apart. In storing them I select out all that contain much bee-bread or pollen, and place them by themselves where I can use these first, then I select all having but little pollen in them, and place these where they will come to hand next after those first named; then I select all which are old and black, but with no pollen, and have these next at hand, while those having been used but little by the bees for breeding purposes, and having no pollen in them, are left to be used last or latest in the season.

All white combs in which no brood has ever been reared, the same having no pollen in them, whether containing honey or not, and that have been taken from the hives during the fall, winter, or early spring, are almost moth-proof, or, at least, I have never, to my remembrance, had such combs disturbed by the larvæ of the wax-moth, where kept as above for any term of years; but when such combs are taken from the brood-chamber of the hive during hot summer weather, and stored away as above, then they may be troubled some.

Combs stored two or more inches apart, with those having the most pollen in them to the front, need not be lookt after in this locality till June, when they should be examined; and if any fine webs are noticed about the cells containing pollen, these should be given to the bees as soon thereafter as possible. By about the 10th to the 15th look after those having a little pollen in them, and by the 25th look after the old, tough combs; while those which the bees have used but little for breeding purposes will rarely need looking after before July 4th to 10th.

In this way I have no difficulty in using all the spare combs I may chance to have before the moth troubles them to an extent sufficient to injure them, unless my losses have been exceedingly heavy during the winter.

But if we wish to keep combs during a whole season or more, they must be fumigated in some way, or else have been exposed to a temperature as low as zero during the previous winter. Where this latter has been the case, pack them away in early spring in some box or closet which you know to be absolutely moth-proof, and they will keep for ever, or as long as the box or closet keeps, providing no female moth is ever allowed to deposit eggs on them.

To fumigate by the old way, place them in a tight room, or in hives which will sit closely together, one on the other, without bottoms, when sulphur is to be burned to the amount of a pound to every 400 cubic feet contained in the hives or room. In sulphuring combs there is little fear of using too much sulphur; for should a deposit of sulphur occur on the combs, thereby giving them a greenish tinge, it will not harm as it does on comb honey.

In sulphuring honey or combs, too much care can not be taken guarding against the possibility of fire; for a room filled with the fumes of burning sulphur, together with many inflammable combs, is a poor place to go to extinguish what may prove to be a conflagration, unless found in time. For this reason an iron kettle, partly filled with ashes, with live coals on the ashes, with the combs so hung that none of them can melt and fall in the fire in the kettle, is the best thing to use to pour the sulphur on. If you wish the combustion of the sulphur to be complete, too much must not be poured on too small a surface of coals, otherwise a part of the sulphur will not burn as it should.

LENGTHY CAGING OF VIRGIN QUEENS.

I am about going into the queen-rearing business. I am led to believe that if I can introduce old virgin queens when I take out a laying queen from a nucleus, that a gain in time can be made, as these old virgins will get to laying sooner than would those hatcht in the nuclei. Therefore, I wish to know how long a virgin queen may be kept confined in a nursery-cage, or otherwise, before she becomes too old to be fertilized?

ANSWER.—So far as my experience goes, all perfect queens will fly out to meet the drones when from five to nine days old, during the months of June, July and August if the weather is favorable to such flight; and any contrivance which prevents their doing so is an injury to the future value of the queen, in my opinion. If the weather is unsuitable, this same queen will have no desire to go out till such a day comes; hence, there is no uneasiness, consequently no injury to her value. But confine her once on a nice day, when she has a desire to go out, and she is injured to the extent of the efforts put forth to accomplish her purpose. I do not believe it possible for any queen to be just as good after being kept confined so she can not fly out to meet the drone, when nature prompts, as she would be if she had her liberty to do as she pleased.

As said above, the rule is for a queen to go out when from five to nine days old; but during the months of April and May, also of September and October, in this locality, queens frequently do not become fertile till they are from two to four weeks old; yet these queens have proved as good as any, as far as I can see. Having this in mind, I once argued that if I kept virgin queens confined till they were three or four weeks old, they would be as good as any. So I kept queens in nursery-cages and otherwise till from two to four weeks old, then introduced them to frames of hatching brood, but not one of these queens which were confined past the time when they had a desire to fly proved to be nearly as valuable as queens allowed to do as they pleased. Some which were kept confined nearly four weeks never were capable of keeping as many as four Langstroth frames full of brood at their very best.

After an experience covering a period of nearly 20 years in trying nearly every kind of "short-cut plans," as they are called, to secure laying queens often from nuclei, by using virgin queens of advanced age to take the place of laying queens taken from nuclei, I have settled down to the conclusion that the giving of a mature cell, in all cases where a queen is removed in such a way that we desire a virgin queen to take her place, is much the best plan of any, taking all things into consideration; good queens being thus obtained every time, providing the queen-cells are reared in such a way that they will give good virgin queens.

Onondaga Co., N. Y.

Naturally-Built Comb vs. Comb Foundation.

BY S. A. DEACON.

IN the American Bee Journal for Nov. 4, 1897, Mr. C. P. Dadant has a rejoinder to my contention (for it is certainly no *refutation* of it), viz.: that the advantage of using costly comb foundation over that of allowing the bees to construct their own combs has been hitherto somewhat overestimated; and in which contention I am borne out by the practical experience of a California contributor, who signs himself "Sage-Brush."

Mr. Dadant's reply, which, I confess, I had awaited with fear and trembling, is hardly so scathing, and certainly not so conclusive as some doubtless expected it to have been; and as I have not been utterly annihilated by him, I have cancelled the order for my funeral. In upholding the value of foundation, he stood on very delicate ground, and with the true modesty and gentlemanly instincts so conspicuous in the composition of the Dadants, he was no doubt hampered with a desire to avoid extolling too exuberantly the use of a commodity in whose consumption he is pecuniarily interested.

Mr. Dadant has certainly by no means disproved, in fact he has not even disputed, my contention that the term "drawing out the foundation" is altogether a misnomer, or dispelled the idea which it is so likely to induce, viz.: that when, upon opening a hive, we see a long string of bees all clinging to each others' "coat-tails" (like a lot of school-boys playing at "tug-of-war"), they are necessarily engaged in pulling or "drawing" out the foundation; nor has he by any means disproved my statement that the use of foundation is, in a great measure, wasteful; in fact, he has, if anything, confirmed my assertion that the bees do *not* "draw out" the side-walls, tho they may utilize the wax in them to extend or increase the depth of the cells as far as it goes; for he says that "after the bees have workt on foundation, any little boy can see that the base and side-walls are very perceptibly thinner."

Now, as nobody has hitherto had the rashness to assert that the bees "draw out" the *base*, it is reasonable to conclude that this thinning down of it is effected by their removing a lot of surplus wax with their mandibles, and which means a waste of the bees' time and of their owner's money; for they could more rapidly secrete and use their own wax, costing the bee-keeper nothing, as against 50 cents a pound for foundation. And is it not reasonable to conclude that if the bees thin down the base—by digging out and removing the surplus wax—the side-walls are thinned down in precisely the same laborious and time-wasting manner, and that they do not therefore "draw them out" at all? Indeed, such mode of construction would be quite opposed to their natural instincts. Hence, I have no hesitation in repeating my statement, viz.: that to imagine that the bees "draw out" the thick side-walls—presumably after the material composing them has become plastic by the heat of the atmosphere and of the crowded hive—is a silly and unreasonable belief, in spite of Mr. Dadant's rather discourteous remark that, in asserting that the bees do *not* "draw out the foundation" Mr. Deacon does not know what he is talking about.

Mr. Dadant tells us that the bees "remodel the side-walls" and complete the cells by adding some of their own wax. This is tantamount to saying that they break down the costly material that we supply them with, and re-construct after their own manner—a totally different thing to their "drawing out" the side-walls! Yes, Mr. Dadant emphatically says "they remodel them, Mr. Deacon to the contrary notwithstanding." Why, that's exactly my argument, and on this point Mr. Dadant and myself are perfectly agreed! Votre main, Monsieur. Shake!

And will Mr. Dadant, or any other man, venture to deny that this demolishing and rebuilding by the bees is just as much a waste of labor and time, as tho, in arranging for the building of a long wall one foot wide and six feet high, one were to furnish the masons with bricks previously cemented together in the shape of a stumpy wall three feet thick and two feet high, necessitating the demolition of the same ere they can go on building, and that, too, when they are quite willing to supply their own bricks, all loose and handy, gratis, and which bricks must be otherwise wasted? The cases are identical. If the bees must needs first gnaw away the wax and then "remodel"—as Mr. Dadant plainly affirms they do—no sane person can possibly deny that furnishing them with material in a shape they find useless for their purpose, and that at 50 cents a pound, constitutes a waste. There is no getting over it—it is too self-evident.

I do not say that there is *no* advantage in using foundation; my former remarks were by no means intended as a wholesale disparagement of it; I merely asserted, and now unhesitatingly re-assert, that we are deluded in assuming that the bees rapidly stretch, or elongate, presumably by tugging at or "drawing out" the side-walls; and as Mr. Dadant's own evidence incontestably proves that they do no such thing, but that they break the thick, stubby walls down and "remodel" them, I consider my contention unassailable. If the bees first break down the thick, stubby side-walls we give them—as so great an English authority as Mr. Samuel Simmins affirms they do—and reconstruct the walls with the same wax—as so great a French and American authority as Mr. Dadant says they do—I fail to see how my contention can otherwise than hold good, viz.: that we are deceived in our estimate of the economic value of foundation, *i. e.*, as affording a saving of time and labor to the bees, and also, consequently as to its pecuniary value. Carefully and intelligently conducted experiments, such as made by "Sage-Brush," are bound to prove that the saving, or gain, by its use is not proportionate to its cost. One would reasonably suppose that as well as the bees utilize the wax, which they have laboriously to detach first from the stubby walls (and which costs us 50 cents per pound) for building out their comb, they would be prepared to use plain, unembost wax, placed in handy shape within easy reach (and costing only 25 cents per pound) for the same purpose; in that case all we would need to furnish them with would be the septum, or base, but the benefit would really be so slight compared with even the smaller cost of this, that it would be preferable to leave them to find *all* their own material.

While expressing "great regard" for that patient, careful, and highly intelligent observer, Mr. Simmins, Mr. Dadant sneers at statements of mine, which are really only re-echoes of those made by the same Mr. Simmins. For instance, in allusion to my remark that "careful experiments have conclusively demonstrated that it takes less than six pounds of honey to make a pound of wax," Mr. Dadant contemptuously asks, "Pray who made those *careful* experiments?" Well, the gentleman for whom he professes a great regard made some of them. And as his observations, which decided the ratio of honey consumed by the bees to the production of a pound of wax, will, I am sure, be found highly interesting to the majority of our readers, I shall make no apology for giving in full a recital of the method whereby Mr. Simmins arrived at the conclusion above stated.

> "My experiment," says Mr. Simmins, "was conducted in a large flight-room, 50 feet by 10 feet. A swarm of nearly three pounds weight was made up and given frames, with a line of wax as a starter to each. I determined to avoid the complication that would arise if brood were produced, but at the same time it was necessary to have a fertile queen presiding, or the bees would not work to the best advantage. The new combs were therefore removed every three days, and tho occasionally eggs were to be seen, no food was consumed in their production other than that fed to the queen. The removed combs were placed behind the division-board, and were emptied of their contents by the bees, again to be used in filling fresh frames. Thus, without extracting, the combs were taken away perfectly dry, with the exception of the three last built; and to make sure of wasting none of this remaining honey, the combs containing it were run down in a vessel with no added water. The bees had access to both pollen and water while building, and from six pounds of honey fed to them they gave 6¼ ounces of clear wax, with a balance of 15 ounces of honey left over. If I say an even pound left I shall be nearer the mark, as the bees had the means of loading themselves much more heavily than when the swarm was made, as they were then forced to consume what they had before commencing to build. Five pounds, therefore, giving that quantity of wax, it would be supposed that it takes 12 4/5 pounds of honey to give a pound.
>
> "But our experiment is not yet completed; the bees had to live during the 20 days taken to carry it out. Being in a confined area during autumn, when the weather was far from being as warm as could be desired, the expense of production would be very much more than when new combs are built in the hight of the season. The bees did not get on so fast, especially as the best combs were removed in time to prevent the production of brood, and towards the last the supply of honey became very limited.
>
> "To get at the cost of living, after removing the last of the combs and balance of the honey, the bees were given just one pound of honey in a feeder arranged so that they would not get it fast enough to go on building. After the fourth day there were six ounces left; but here is a little difficulty: They could not require 10 ounces in that time, and on removing the feeder with balance of honey, and giving four empty combs, they put about two ounces into the cells. This would still leave eight ounces consumed, or two ounces per day while in active flight. Then for the 20 days we have 40 ounces consumed to preserve life, which deducted from the five pounds leaves two pounds eight ounces actually used in producing the 6¼ ounces of wax; thus, to produce one pound of wax 6 2-5 pounds of honey would be consumed.
>
> "When the cost of living was carried out, the bees were reduced about one-third, so that two ounces per day should be within the mark. In the hight of the season, with everything favorable, it is only reasonable to say that the cost of production is really much less, and probably less than five pounds of honey are consumed in actually producing one pound of wax."

Is not that sufficiently satisfactory, Mr. Dadant? It certainly does not agree with your statement that "it takes from 7 to 15 pounds of honey to produce a pound of comb in the very best circumstances." But let us hear what Mr. Simmins has further to say about "comparative cost," *i. e.*, of natural and artificial comb:

> "In the course of the experiment," continues Mr. Simmins, "I found that about eight standard frames (14 inches by 8½ inches) of new comb will give one pound of refined wax. It is surprising what a large amount of refuse is left after melting the most beautifully white combs, so that the actual weight of wax obtained is much less than that of the original combs. *Observe this:* One pound of wax costing the producer less than one shilling and sixpence [36 cents] fills eight frames with finisht comb. To do this with foundation 1⅓ pounds of that article is required, costing in hard cash at the least two shillings and sixpence [say 60 cents] for the base only; to this the bees add considerable of their own production before the combs can be completed; making the total cost much over three shillings [say 75 cents]. Facts are stubborn things, and can not be ignored."

So much for the very careful experiments of Mr. Simmins.

In regard to my assumption (really that of Mr. Simmins, from whose book I learnt it) that the secretion of wax goes on in the hive, and that the scales are therefore wasted where foundation is used, Mr. Dadant emphatically states that "this is not so, as there is always a necessity of wax for lengthening the comb." It is rather difficult to know whether he herein denies that the secretion of wax goes on, or only denies that "it is wasted." If he admits that the secretion of wax goes on, then—in the case, at least, of the Nebraska man's foundation, which is warranted to have "enough wax in the side-walls to enable the bees to finish the combs without any additional wax"—there is bound to be a waste; and it was really the advertised claim of this foundation maker that, in the first place, set my thoughts and my pen agoing.

Mr. Dadant concludes his very lame attempt to refute my statements by suggesting that I should first make experiments, and not write until I have done so. But why should I masquerade as an expert and make experiments, when far abler men than myself, such as Mr. Simmins, of England, and Mr. "Sage-Brush"—whatever his proper patronymic may be—in California, and scores of others have already done so? And what would be the good, as far as trying to convince Mr. Dadant goes, when he, rather superciliously, pooh-poohs the experience of such authorities as Mr. Simmins, suggesting that he has not used the proper kind of foundation in his experiments, or the bees would not have scraped away the side-walls. Is it likely that an expert of Mr. Simmins' standing would make experiments with adulterated or inferior material? This is not very complimentary to Mr. Simmins' intelligence! Mr. Dadant, while denying that the bees scrape off the side-walls, informs us that they "remodel" them. Will he kindly explain the bees' *modus operandi*, how they can remodel or reconstruct without first demolishing?

Mr. Bevins quotes from "Langstroth Revised" in connection with this argument, a passage which reads: "It is a remarkable fact that the bees thin out their foundation to a certain extent and make it considerably deeper out of the same material." So far from opposing my contention, this—like all of Mr. Dadant's statements—goes to confirm it, *i. e.*, to prove that the bees' time and labor are wasted in having to "thin down" the side-walls (as well as the base) by excavating the wax where it is not wanted, and putting it where it is wanted, in other words, demolishing and reconstructing—or "remodeling"—for they can no more stretch, pull, or "draw out" the side-walls than the masons can stretch, pull, or "draw out" the stubby wall of cemented bricks three feet wide by two feet high into one a foot thick and six feet high.

Mr. Bevins quotes yet another passage from "Langstroth Revised," viz.: "When foundation has been made with a thin base and a heavy wall the bees draw it out more readily into comb." And why? Simply because they have more 50-cent material on hand to quarry into, but whose intrinsic value is 25 cents only. With all proper respect for Father Langstroth's memory, and with all due respect for the revisers of his work, I maintain that the bees do *not* "draw out" the walls, and I hereby challenge any one to prove that they do! South Africa.

(Concluded next week.)

CONVENTION PROCEEDINGS

Report of the Central Texas Convention.

BY LOUIS SCHOLL.

(Continued from page 502.)

CHUNK HONEY VS. SECTION HONEY FOR THE SOUTH.

E. J. Atchley says that both are good. He used to think that section honey was the best and nicest thing, and for many years did not produce any other, and advocated the production of comb honey in sections. Of course, section honey is very nice, but he thinks the dollar is nicer. As chunk honey brings more money in the South, there are no more sections for him now. In the first place, he can produce at least one-third more chunk honey in frames, then, when put in cans, it can be shipt at a less freight rate, going as fourth-class. Section honey, in glass-front shipping-cases, goes at first-class rate, and *at owner's risk*; while honey put up in two 60-pound cans to a case, if damaged *en route*, will be settled for by the railroad companies. This is greatly in favor of comb honey put up in cans, and Mr. Atchley has had enough section honey smasht to bring down the price as low as that of chunk honey. Some object to such a mess, but are sections ever set on the table? And when the section is cut, it is just that way, too. If cut out of the section it is chunk honey, too, but nothing like a chunk out of a can, with nice honey all over and around it; and, indeed, there is nothing more inviting when hungry, and nothing nicer. If everything is favorable to produce section honey, it is all right; but two supers of chunk honey can be produced to one of section honey.

O. P. Hyde thought there never was anything nicer than comb honey in one-pound sections, and he was slow about changing his mind, as he was against such a mussy way of putting up honey. Now he knows that the new way of putting up nice comb honey in cans and putting in extracted honey to fill up the cracks and crevices, to prevent the nice, tender combs from mashing, is *the* honey for the South. Also, as he has always kept bees from a dollar-and-cent standpoint, he must produce what is in demand. He read a number of letters received in a few days from a firm in Ft. Worth, asking them to ship honey. Out of a large lot of this honey, amounting to over several hundred dollars, only *two* cases was extracted, and the rest all *chunk comb* honey in 60-pound and 12-pound cans. This gave a good idea of the large demand for this kind of honey. The proper name will be *bulk comb honey* from now on.

R. B. Leahy askt what percent Mr. Hyde produced over section honey.

Mr. Hyde—About one-third more bulk, besides adding about 15 pounds of extracted to fill up the 60-pound cans, which sells at the same price as the comb honey. When filling the cans with comb first, it is only possible to get in from about 40 to 45 pounds. Sometimes double the amount of bulk comb honey may be produced in frames, while it is impossible to produce good section honey during a bad flow.

B. A. Guess has produced such comb honey almost exclusively ever since he kept bees, while the majority went over to produce comb honey in sections; and while they were all discussing section honey he thought his comb honey was good enough, and he built a trade on such, and now the demand is so great with that he can't supply it. Producing section honey always seemed too scientific for hom, and is the reason why he did not attempt it. Now he is glad to see the bee-keepers come back again.

Mr. Davenport says that such honey does not work with him in his market at Waxahachie. He gets the fancy trade, and has fancy section honey.

J. J. Waldrip has produced extracted honey. For many years he produced section honey, which paid very well. For shipping honey, sections go as first-class freight, and as the other goes as fourth-class, there is a saving of freight in favor of bulk comb over section honey, which goes at owner's risk. It gets smasht up, and is lost, while bulk comb honey in cans saves honey, besides freight.

Mr. Faust is for the dollar, and gave the same evidence as did Pres. Hyde.

Mr. Leahy explained why he thought the production of bulk comb honey was not such a great thing, and for bee-keepers to be convinced he told them just to ship some of it to the North. But if it is to the benefit of the producer, then it is a move in the right direction. As it can not be sold in the North, it remains only for Texas, and therefore there may be danger of an overproduction. Then, too, it seems to him that bee-keepers were going backward to 30 years ago, when he first started with bees, the only difference being in better hives, foundation, and more scientific methods. He also said that it was hard work to produce fine section honey.

QUEEN-REARING.

Mrs. Jennie Atchley described her methods. As they are largely queen-rearers their methods are based on a large scale. Ten or 15 of their best cell-building colonies are dequeened and made ready. Before doing this, an old comb is put in some of the breeders' hives for young larvæ to graft cells. The cells are then attacht to the under edge of a comb, and cut out rainbow shape, which is preferred to Doolittle's stick for the cells. About 50 cells are used to a colony to build out. On the seventh or eighth day go around and pinch off all small cells that are started on the combs. On the ninth day (nuclei are formed beforehand) one cell is given to each. Sometimes two cells are built too close together to be cut apart, when both are put in.

H. H. Hyde said a good breeder to start with is a prolific, gentle, honey-hustler, and one that will keep a strong colony of bees during the time of scarcity. For securing cells and large queens the Doolittle is the best plan. Prepare colonies in early spring. He has not found any difference between Italians and hybrids for cell-building, but prefers a queen of year before last. He gets his colonies running over with bees, using a division-board feeder to stimulate. He makes Doolittle cell-cups with the Pridgen cell-dipping arrangement. This he exhibited and explained. He next takes the dipt cells and fastens them to a stick, 18 on each; then secures larvæ from 26 to 48 hours old to graft cells. Larvæ must not be too old, as also queens from such hatch too early. He uses royal jelly for grafting, and a little spoon like a cane to dip larvæ out with, in which great care has to be taken. The little larvæ should not even be turned over, or the bees will not accept the cells. He next cuts out half of a comb and inserts the stick containing the cells below this, and gives to cell-builders in the upper story, above an excluder. Here he puts combs of young brood on both sides of the cell-comb, so as to draw up a lot of young bees. He says by putting unsealed brood up above, and with a lot of young bees to feed it, and no queen there, makes the same condition as that of a colony at the time of superseding their queen, as there is a small amount of larvæ in proportion to young bees present at the time. When the cells are ready they are removed to nuclei, one in each. If he has a surplus of cells he inserts them in introduction-cages, filled with candy, and then puts these in a frame and hangs it in the hive to keep over until he has places for them. He uses this same cage when introducing virgin queens. When he has a valuable queen he uses the wire-cloth comb-cage, by taking a piece of screen wire-cloth about six by eight inches; about one inch around the edge is then raveled off and the edges bent over, so as to form a sort of shallow box. The sharp, pointed walls are then stuck into a side of a brood-comb *containing hatching brood;* the queen is to be put into this cage, and after awhile she will be found laying, and a lot of young bees to protect her. But don't make the mistake and stick this cage on a comb of honey, or a newly built comb, for it will not work; besides, the bees will undermine the edges of the cage and kill that valuable queen. As he rears queens quite extensively, he runs a large number of nuclei. One must be careful or he will soon run his nuclei down. Never take out a queen except you have a cell or a virgin to give them, and then it is best to let the young queen lay a few days to strengthen the nucleus. In this way he has his nuclei strong, and during cotton bloom he gets quite an amount of extracted honey from them. He also toucht upon laying workers—those pests of queen-rearing—and told how he gets rid of them. He says that no matter how careful one is, he will have trouble with such, but when he has he simply takes a frame with bees, queen and brood, and gives to a colony containing the pests, and it soon stops it.

Mr. Faust prefers medium-sized queens to extra large and very small ones, which latter are no good. With the Doolittle plan almost all are good, and none small.

Mr. Atchley does not question about the methods used when wanting good queens, for if any of the plans are used rightly good queens can be reared. He says that all the methods are good.

But Mr. Davidson does not agree with him, as he prefers the Alley method, which he believes to be better than any other. He repeated his description of this plan as given at the meeting at Milano last year, on account of some not having understood him then. The plan is to use narrow strips of comb, only one row of cells containing eggs. With an unlighted match he destroys every other egg, and attaches this to the bottom of a comb that has been cut away about half.

Mr. Atchley then askt Mr. Davidson if there was any difference between the Atchley plan and Alley's plan, as the Atchleys move the little larvæ, cocoon and all, into dipt cells, which does not make any difference.

Mr. Laws said it is not methods that make good queens, as all plans produce some good queens. With the Doolittle plan he secures all good queens, and, as told by Mr. Hyde, above an excluder, with conditions in superseding.

Judge Terral was requested to deliver a speech on apiculture in the assembly hall at College Station next year.

Mr. Salyer was appointed a committee to prepare a program for the next meeting. He requested the secretary to have badges printed for the next meeting, and to mail them to members at least 15 days before the meeting, with a request to the members to attend.

SECOND DAY—AFTERNOON SESSION.

Among the resolutions introduced and past, were these:

Resolved, That the thanks of this Association are hereby tendered to the people of the city of Hutto, for their unstinted hospitality extended to us during our stay among them; to Mr. O. P. Hyde and family for their unceasing efforts to care for each and every member of the Association. We will each retain kindly memories of this meeting.

Resolved, That this Association tender our ex-President, E. R. Jones, our sincere thanks for his kind and efficient services in behalf of this Association.

Resolved, (by Central Texas Bee-Keepers' Association, in convention assembled) That we petition the next legislature, thru Prof. Connell, of the A. & M. College, Bryan, Tex., for an appropriation for the establishment of a State bee-keeping experiment station at College Station; and also for a sufficient appropriation to pay a man to manage and experiment at this station.

All of the resolutions were considered and adopted unanimously, except the last, as it was deemed best first to go down to College Station and meet there before taking this step, and so it was thought best to wait, as it was yet quite early.

QUESTION-BOX.

The question-box was next taken up, as follows:

QUES.—Does it pay you to rear your own queens? ANS.—Yes, and no. It depends upon circumstances. When during swarming season it is good, but otherwise not, and it is preferable to buy them from breeders who are prepared for it. Then, queens are cheap now.

QUES.—What is best to do with weak third swarms? ANS.—Hunt out the queens and put them back. If a valuable queen put her in a nucleus.

QUES.—Which is the best size super and frame for bulk comb honey?—ANS.—After a long discussion, the shallow super and frame were greatly in preference. Especially the 5¾-inch deep supers and 5⅜-inch frames.

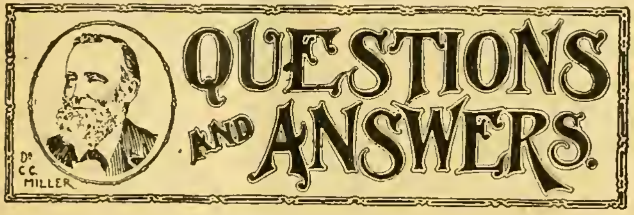
QUES.—Can any one tell why so many virgin queens sometimes disappear? ANS.—Many are caught by birds or insect-loving animals, when they take their wedding flight. Many are balled by their own bees; and there are other ways by which they are lost, but mostly during bad weather when it seems as if the bees wanted to force the virgin queen out to perform her duties, as more are balled on this account, and it does not happen often when the weather is favorable. Some are balled when returning from their bridal trip.

There were many other questions answered and discust by all, and the list of about 40 members present showed that 5,808 colonies of bees were represented.

The apiarian exhibit at the hall consisted of many useful tools, implements and appliances, besides fine honey and bees. Next year a grand exhibit is expected at College Station, when the Association meets there. Prizes will be offered for the different exhibits, many of which have already been donated, to be awarded by a committee of four, appointed by the convention, viz.: Louis Scholl, W. H. Laws, J. B. Salyer and O. P. Hyde. The secretary was requested to solicit donations for prizes, and a list will be given later.

This was indeed a grand meeting of bee-keepers.

Louis Scholl, *Sec.* O. P. Hyde, *Pres.*



CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—Editor.]

Prices of Queens.

Please quote me prices on both tested and untested Italian queens? Illinois.

Answer.—To this and to others who have sent inquiries, the only answer I can make is that I have no queens for sale, only as the orders come from the publishers of the American Bee Journal. C. C. M.

Keeping Candied Extracted Honey.

I have my last year's crop of extracted honey yet, and it has candied solid, and I want to sell it in my home market, but haven't the time to work at it yet. How long will it keep in the candied state? I keep it in my honey-house where it is very warm in the summer, but very cold in the winter. Indiana.

Answer.—It ought to keep all right for a number of years, unless your wife takes your honey-house to do a washing in, so as to make steam.

Entrance-Guards—Pumpkins as a Honey-Plant.

1. Was not the perforated zinc used in entrance-guards intended for hybrid as well as Italian bees? I tried a guard on a hybrid colony and not ¼ of the bees were able to pass thru.

2. How do pumpkins rank as a honey-plant? I have not yet studied botany in my school work, but I thought by the way the bees workt on the blossoms they must get something from them, as there were two or three bees on every flower in the morning. Illinois.

Answers.—1. There is supposed to be no difference between hybrids and Italians as to passing thru perforated zinc. There must be something exceptional about your bees, or your entrance-guards, that allow only ¼ of the bees to pass thru.

2. Pumpkins are quite rich in nectar.

Giving a Swarm Ventilation.

In hiving a swarm in a new hive, is it always necessary to give ventilation? If so, how would you give ventilation? Michigan.

Answer.—To say the least, it is very important, if you want the swarm to stay. For the first two or three days you can hardly give too much ventilation. Raise the hive an inch or more from the floor-board, and raise the cover ¼ to ½ inch at one end, or leave the cover partly off. After the first two or three days, when work has been fairly begun, the cover may be closed.

Keeping Bees on a Balcony.

There is a man living in our city who would like to keep bees on his balcony, as he has no other room for them. Is this a possibility? If so, please explain how the hives can be arranged so he can manage them from the back. Michigan.

Answer.—There is no special trick in the matter, but it would be easier to give specific instructions on seeing the lay of the land. The main thing is to face the hives so that there shall be the least interference by passers-by as the bees enter or leave their hives. If the hives are of the ordinary pattern, it will not be easy to manipulate them other than at the side, but the hives can be in pairs, two hives close together, then a space, then two hives close together.

Starting in Bee-Keeping.

1. Do you recommend bee-culture as a means of money-making for boys in school (college), who want to help defray their expenses?
2. What variety of bees are best or most profitable?
3. What would a colony of bees cost for starting? City Man.

Answers.—1. If it be merely the matter of money, there might be other kinds of employment more advisable. But if a young man has some taste for bee-keeping, it would be hard to find anything better, for the care of bees to a student with such taste would be recreation rather than toil, and if well cared for a few colonies of bees would make substantial returns. But it requires some knowledge of the business.

2. Italians, or those with a large proportion of Italian blood.

3. Prices vary much, perhaps from $5 to $7, generally.

Introducing Queens.

I received the queen you sent me in good order, but she is *non est* now. I would like to write you the way I introduced her, and if you will tell me what my mistake was, you will greatly oblige one of your readers.

I did not have any queenless colonies, so I took two frames of sealed brood with adhering bees, and two frames of honey, and shut them in a hive, putting the cage between the top-bars. In two days, as the bees seemed friendly towards the queen, I let her run on the frames of brood, and the next day, altho I did not see her, I found eggs in the frame. Yesterday the bees commenced to rob the colony, and I could do nothing with them. I lookt at them this afternoon, and they had taken every drop of honey, and I should think had had a free fight, from the dead bees on the bottom-board, but no queen living or dead could be found.

This is only my second year at bee-keeping, and as yet, altho I have a great many theories, I have not had much practice, but I hope in time to be more successful. Mrs. Florence.

Answer.—It would have been a safer thing to have left to the bees the job of releasing the queen, instead of letting her out of the cage yourself. Still, that had nothing to do with the loss in your case, for your finding eggs was good evidence that the queen was received all right, providing this was three days or more after the bees and brood had been taken from the mother colony. The only trouble in the case was that the nucleus was overpowered by robbers, and I'm afraid that a certain woman was a wee bit to blame in the matter, altho that may be an unwarranted suspicion on my part. What I am afraid of is that the hive was opened to see what was going on, and a frame left standing out of the hive for a time let the robbers have a taste that aroused them. At a time when robbers are likely to be troublesome, the greatest care should be exercised about opening a hive with a weak colony, not to expose anything to robbers, and there is some advantage in doing the work rather late in the day, for in that case if robbers do attempt to enter, the coming on of night will stop them and give the weakling a chance to rally. The entrance should be only large enough for one or two bees to pass at a time.

Queenless Colony Gathering Honey and Pollen.

Do bees gather honey and pollen when they are queenless? MICHIGAN.

ANSWER.—Yes, as you can easily tell by watching a queenless colony. If you look inside when a colony has been queenless for some time, you may think they gather more pollen than others, but that's because they store without using what they gather, which is really less than others gather.

Observatory Hive.

1. Please give directions for making an observatory hive.

2. If I put frames of brood and honey in, with a sealed queen-cell, how many bees will it take to make a fair colony in an observatory hive?

3. What is the best way to get a colony in the observatory hive? I have no extra queens. MASS.

ANSWERS.—1. An observatory hive may contain only one frame, or it may contain 10 frames. It is built on the same general principles as another hive, only the two side-walls should contain a pane of glass, with a shutter to cover the glass.

2. Just the same as in any other hive, depending on the number of frames, each frame being well covered with bees.

3. One way is to pen them in for 24 hours, taking care that they do not smother.

Honey Granulated in Brood-Combs.

About one-half of my surplus honey, also the same per-cent of honey stored in brood-frames, that which was gathered thru the month of June, is candied. The sources from which the honey was gathered thru the month of June are as follows: White clover, poplar, black-gum, and the largest percent of the total is honey-dew. From all these sources my bees have gathered honey year after year, but never have I seen a drop of candied honey in combs. Why did this honey granulate? Will the candied honey in the brood-frames be all right for wintering bees, since some of it is quite hard and dry? If not, what would I better do? WEST VIRGINIA.

ANSWER.—I cannot tell why your honey should act so differently this year. It might be well for you to feed to each colony five pounds of sugar with the same weight of water, removing some of the honey for that purpose. A larger amount of sugar might be still safer.

The American Fruit and Vegetable Journal is just what its name indicates. Tells all about growing fruits and vegetables. It is a fine monthly, at 50 cents a year. We can mail you a free sample copy of it, if you ask for it. We club it with the American Bee Journal—both papers one year for $1.10.

THE AFTERTHOUGHT

The "Old Reliable" seen thru New and Unreliable Glasses.
By E. E. HASTY, Richards, Ohio.

QUEEN-REARING IMPROVEMENTS.

I am rather "the day after the fair" in commenting on Mr. Pridgen's splendid article on queen-rearing, as copied from the Bee-Keepers' Review on pages 401 to 405. It has already been commented on by those who know something about rearing queens for market, which I do not. I know that in the opening picture those cell-cups give a singularly vivid impression of the delicate waxiness of wax. I should guess that a very great labor-saver was that queen-nursery to slip over 18 cells at once—and give each princess a boudoir of her own—and release her thru a hole with a wooden peg. I wonder how many readers blunderingly thought from looks that the transfer-stick and a dipping-stick were all the same thing. And many of the little paragraphs might be profitably enlarged to a considerable article—just to get the thing more effectively thru a dull fellow's wool.

When A. I. Root called for a sheet of foundation a mile long he didn't think how soon some one would distance him by grinding out a peck of young queen-cells with a few turns of a crank! (And some might say that W. H. P. is the more significant crank.)

And it seems it isn't worth while to try off-hand introduction with virgin queens which have reacht that extremely active state characteristic of them when many hours old. I judge that one of the best general directions is: Observe at eventide all colonies from which queens are likely to mate—and if one has failed to return from flight there will be panic and distress manifest at the door.

ROBBER-BEES AND THEIR WAYS.

And so Mr. Davenport also "got left" by 500 pounds of honey which was once in a barrel. And I will admit that sometimes—many times—anything and everything can be given to bees to clean up without putting any dangerous mischief into their heads; still I incline to maintain that the robber-bee is not altogether a figment of the imagination, like grave-yard ghosts. It's perfectly true that robbers will form squirming bunches, and act as if in a frenzy of desire to get into that hive, when they are taking good care to keep away from the entrance, for fear of consequences. It is a helpful suggestion that an apiary often gets in a roar when there are not many robbers—mainly the roar of bees trying to find out what's going on. Page 405.

FASTENING FOUNDATION IN SECTIONS.

As to fastening foundation in sections, Charles Smail, page 410, evidently does it, and in an unusual way—still I think he might profitably meditate on the way Dr. Miller does it, and on the methods of some of the other brethren. You see if a type-setting youth should entirely ignore the efforts of others in the same line, he would be pretty sure to think that 30 cents' worth of type-setting was a rousing day's work.

SHOWY AND FRAGRANT FLOWERS AS HONEY-YIELDERS.

Thanks to Prof. Cook for his general principles (page 411) that all showy flowers and all fragrant ones are nectar-bearing. I think, however, there is room for warning against riding these principles too hard. The "nigger-head" and the ox-eye daisy and the mayweed are showy, but they hardly count much to our profit. The flowers of basswood are not showy, yet they count heavily. Our heaviest yielder, white clover, is but very faintly fragrant, and no more showy than the mayweed is. So we can not judge conclusively offhand by either beauty or fragrance. I wonder if it wouldn't do to make another general rule, to the effect that flowers of ill odor are mostly of no account for honey.

SUNSHINE TO MOVE WORMS OUT OF COMBS.

Yes, Mr. Ridley, your accidental discovery is likely to be of some use. Instead of the tedious work (seldom fully complete) of picking worms out of combs, set the combs up in the hot sunshine and make the worms crawl out. Page 430.

AMERICAN BEE JOURNAL.
ESTABLISHT IN 1861 OLDEST BEE-PAPER IN AMERICA
DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS

PUBLISHT WEEKLY BY
GEORGE W. YORK & COMPANY,
118 Michigan Street, Chicago, Ill.

[Entered at the Post-Office at Chicago as Second-Class Mail-Matter.]

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The Subscription Price of this journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "Dec00" on your label shows that it is paid to the end of December, 1900.

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VOL. 40. AUGUST 16, 1900. NO. 33

EDITORIAL COMMENTS

NOTE—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

The National Convention This Month—don't forget it. The dates are Aug. 28, 29 and 30. The place—Chicago.

Apiary Experiments; by Prof. Clarence P. Gillette, being Bulletin 54 of the Agricultural Experiment Station of the Agricultural College of Colorado, is a very interesting pamphlet, for which this office is indebted to the courtesy of the author. The problems discust in this pamphlet relate mostly to comb foundation. Space is also given to the advantages of separators, proportion of wax in comb honey, and substitutes for pollen. The first question for settlement was:

DO BEES USE WAX FROM ARTIFICIAL FOUNDATIONS TO EXTEND THE CELL-WALLS AND THE COMB MIDRIB?

Black foundation was made by mixing lamp-black with the melted wax from which the foundation was made. Starters an inch wide were given in sections, and the bees built down an inch or more below the starter before the black entirely disappeared. Full sheets were given in sections, and the cell-walls were deep black at the bottom, gradually becoming lighter until the color hardly showed at the outer edge of the cell-wall. This proves clearly that bees freely use the wax in the foundation in extending the midrib, and also in drawing out the cell-walls, freshly secreted wax being mixt with that furnisht in the foundation.

Then Prof. Gillette tackled this very practical and important question:

IS THE WAX OF THE MIDRIB OF THE FOUNDATION USED IN COMB BUILDING, AND, IF SO, WILL IT BE CUT DOWN TO THE THINNESS OF THE MIDRIB IN NATURAL COMB?

Samples of foundation, of midribs of the same after being workt by the bees, and also midribs of natural comb were weighed, the weight of a square inch being taken in grains. A square inch of midrib of natural worker-comb weighed from 1.65 to 3.2 grains, showing that the bees are by no means constant in their measurements. The average of a number of specimens was 2.1 grains. "Very heavy foundation gave a comb midrib weighing 5.90 grains more to the square inch than the midrib of natural comb. Medium brood foundation gave a midrib 3.08 grains heavier to the square inch, or almost 2½ times the weight of natural midrib. The lightest midribs were obtained by the use of extra-thin and thin super foundations, averaging but .85 to .90 grains to the square inch more than natural midrib."

While all midribs thicker than natural were thinned by the bees, none of them were thinned to the natural weight. Deep-cell foundation with very thin base, and with high cell-walls, was actually made thicker by the bees. possibly because some parts were so thin as to have perforations.

Besides weighing the different samples, a large number of measurements were taken by means of plaster casts. The common range in thickness of the midrib in naturally-built worker-comb was found to be between .0032 and .0064 of an inch, and in drone-comb between .0048 and .008 of an inch.

In natural comb, the upper part, near its attachment, had a heavier midrib than the lower part. The midrib of thin and extra-thin foundation was scarcely thinned at all by the bees, and both were about alike, the difference in weight between thin and extra-thin being mainly in the incipient cell-walls. Measurements showed the same thing that had been shown by weighing, that the midrib of heavy foundation was thinned much, and that of light foundation little. Unless the midrib was thicker than about .0068 of an inch, the bees seemed to think it needed no thinning.

Prof. Gillette next turned his attention to

THE THICKNESS OF CELL-WALLS BUILT ON FOUNDATION.

The natural cell-wall is much thinner than the midrib, varying from .0018 to .0028 of an inch, the average being not more than .0024. On heavy foundation the cell-walls were thick for some distance from the midrib, none having cell-walls so thin as the natural except thin and extra-thin foundation, and the deep-cell foundation sent out by The A. I. Root Co. in 1899. Of these, Prof. Gillette says: "I was not able in many cases to detect by measurements that the cell-walls on these foundations exceeded the average thickness in natural comb."

Taking three samples of comb each .9 of an inch thick, it was found that natural drone-comb was distinctly heavier than worker, and scarcely lighter than comb built on thin super foundation. The natural worker took 5.40 square feet to the pound, drone 4.32, and the comb on thin foundation 4.23. Of course, this involves the weight of both cell-wall and midrib, but the cell-wall plays the more important part, as it is estimated that in comb an inch thick the area of cell-wall is about ten times that of the midrib.

Bees seem to make heavier cell-walls when heavy foundation is used, but extra-thin foundation produces much the same result as thin, the principal difference being the less amount of cell-wall in the extra-thin. To get anything approximating natural comb, there must not be a large amount of wax either in the base or cell-walls of foundation.

Prof. Gillette's experiments do not agree with the belief that all the weight of wax given in foundation will be utilized to the best advantage and save the bees secreting just that amount of wax. When foundation containing an abundance of wax to build the entire comb is used, the bees still add much more wax, sometimes nearly enough to build the comb without the help of the wax in the foundation. It is best economy to have the midrib of the foundation as thin as that in natural comb, and only a moderate amount of wax in the cell-walls.

If natural comb an inch thick is filled with honey, the weight of the honey will be 20 to 25 times as much as the weight of the wax. The proportion of wax, as might be expected, is greater in thin than in thick combs.

Bottom-Board Feeding has been practiced more or less for many years. A deep bottom-board, already water-tight, or made so by filling the cracks with wax, is placed under the hive, the whole being raised in front, the feed is poured into the entrance at dusk, and by morning all is cleared up, if the weather is suitable. It has been reported in some cases that too many dead bees have been found carried out the next day. W. O. Victor describes a plan in Gleanings in Bee-Culture that seems to be an improvement. He uses the shallow bottom-board under the dovetailed hive, not more than half an inch deep, the hive is raised half an inch in front, the feed is poured in thru a funnel flattened and bent at the end, and the bees reach the food from the bottom-bars without the danger of tumbling into it.

Bees and Red Clover.—Some time ago Dr. Miller advocated in Gleanings in Bee-Culture with some earnestness the importance of breeding bees for length of tongue, but the editor seemed inclined to throw cold water on the project. Now Editor Root seems to be taking the lead in the matter, and has offered a prize for the longest-tongued bees. In France something has been done in this line, and several instruments called glossommeters have been devised for measuring the length of bees' tongues by getting them to take feed thru some kind of a grating or opening, the depth to which the feed is emptied showing the length of tongue. Breeding persistently from bees showing the greatest length of tongue might be expected to result in obtaining a strain that would be able to do good service on red clover.

Prof. E. C. Green, of the Ohio Experiment Station, advocates the advisability of beginning at the other end of the line, and breeding a strain of red clover with tubes short enough for common bees to work on. Editor Root says:

"I hope this matter may be taken up at the Ohio Experiment Station, under Prof. Green's direction, and in the meantime I hope our bee-keepers will be on the watch for red-clover heads with short tubes. Mark these in some way so that they can be distinguisht when they go to seed. Preserve the seed carefully, and sow them in a small patch next year. From this patch select again the shortest tubes, and thus continue on until a short-tubed clover is developt. If this kind of clover could be secured, the bee-keepers could well afford to furnish the farmers the seed free, and the result would be that such seed would be disseminated all over the country."

The Koran on Bees.—If we are to judge from samples given from the Koran in the British Bee Journal, it must be rather difficult for a Mahommedan to remain faithful to his religious guide after he becomes an up-to-date bee-keeper. Here is a specimen that is rich:

"In the hives there are males and females, but all alike in appearance, so that man can not distinguish them. The work is done by both sexes. The brood is hatcht when the season arrives; chiefly in spring the germ is spit out into the cells, as is the case with other flies—the life of the bee is not known.

"Death takes place either once or twice a year from fatigue or that the old bees over-eat themselves, and returning to the hives are suddenly killed and thrown out by their comrades. European bee-keepers call them drones.

"Swarms are groups of young bees which leave their cells and rush out to hive alone and at their ease.

"Bees spend their nights out-of-doors, except Thursday evening, when all return home, because of Friday the holyday.

"Honey is gathered from all flowers and sweetened by the bee, who swallows it as nourishment—it ripens in the stomach and is deposited later on in the combs as excrement; the sap of flowers and juice of fruits being the only nourishment taken by the bee, their excrements are very clean for our consumption.

"Wax is collected from flowers sticking to their feet, carried into the hive, and kneaded to a dough for the construction of comb."

The Weekly Budget

Mr. G. M. Doolittle, of Onondaga Co., N. Y., wrote us Aug. 1, as follows:

"No such bee-year ever known here since I began keeping bees—31 years ago. No honey—not a cell since fruit-bloom. No swarms. Have had to feed. Queen-rearing is up-hill business. Dry weather spoiled the clover, and forest worms ate up the basswood. If buckwheat does not yield, the sugar-barrel is our only salvation."

* * * * *

Bee-Keeping in Uruguay.—It seems they are having trouble with bees in Uruguay in the public scientific schools. The following item in El Siglo, dated April 3, from Palmira, Uruguay, is translated from the Spanish, and it certainly constitutes good reading:

"There is much comment anent the disposition of the Auxiliary Commission, which has ordered the removal of apiaries from agricultural stations, alleging that the bees are prejudicial to agriculture, while the scientific stations are of entirely the opposite opinion. There is now in vogue in the Uruguay station the North American system of apiculture, which is of much importance. It is the first one installed in Uruguay."

This is followed by a most vigorous and able defense of the bee as the best friend of the farmer and orchardist.—Gleanings in Bee-Culture.

* * * * *

The Duke of York, in England, is taking some interest in bees and honey. "Stenog," in Gleanings in Bee-Culture, gives this paragraph in reference to the matter:

"An interesting feature of the British Bee Journal is a fine view every week of an English apiary. At the Royal show of bees and honey at York, the Prince of Wales and the Duke of York were interested spectators. Mr. Carr laid a section-case containing the queen on the top of a frame hive near at hand, while the driven bees were shown in the hive, and their subjugation and disinclination to sting were demonstrated by the bees being taken up in handfuls. The Duke of York having inquired in what way the bees were removed from the hands, and being shown the usual method of jerking them off by a downward shake, the Prince of Wales jocosely observed, 'And a very good way, too.' It would be a rare sight in the United States to see one so high in rank as the Prince taking any interest in such things."

We are glad to learn that our English "cousin" shows an interest in bee-keeping.

Queenie Jeanette is the title of a pretty song in sheet music size, written by J. C. Wallenmeyer, a musical bee-keeper. The regular price is 40 cents, but to close out the copies we have left, we will mail them at 20 cents each, as long as they last. Better order at once, if you want a copy of this song.

ROOT COMPANY'S PAGE.

SHIPPING-CASES.

Our No-Drip Cases are still in the lead. We keep constantly on hand a large assortment from 12-pound size up. We also make special sizes to order.

That Root's Cases are in demand is shown by the fact that one dealer alone has ordered 16,000 this season.

WINTER-CASES.

Our Winter-Cases are made of thin lumber dovetailed at the corners, with a telescope cover.

The cost is only 75 cents each singly, yet for convenience they are unsurpast, and only excelled by the chaff hive in the protection afforded. Don't let your bees winter-kill or spring-dwindle when you can avoid it by using our Winter-Cases.

RUBBER GLOVES.

This is the time of the year when you need gloves, for robbers are about the bees and they are harder to handle than earlier. Take comfort with a pair of our gloves.

Ladies' sizes, Nos. 6, 7, 8 and 9, $1.35; postage, 5c
Gents' sizes, Nos. 10, 11 and 12, $1.45; " 5c
Extra long driving, Nos. 13, 14, $1.70; " 10c

Mark size of hand on sheet of paper when ordering. If you order by number, remember that in rubber you need two sizes larger than you wear in kid; i.e., if you wear No. 6 in kid you will need No. 8 rubber.

BICYCLES

In trade for honey at market prices.

Having sold a carload of bicycle crates, we took in trade a quantity of machines which, so long as they last, we will sell **AT COST.**

A $30.00 bicycle—"Pathfinder"—made by the National American Cycle Company, Akron, O., for $17.00 cash or $20.00 in trade for honey of good quality at market prices. Catalog and further particulars will be sent on application. Send a sample of your honey and we will give you price we will allow.

COMB FOUNDATION.

Not too late yet to order Comb Foundation for the fall flow. If you order Root's Weed Process you may be sure you will be pleased with the result. We keep in stock the four grades in boxes of 1, 2, 3, 5, 10 or 25 pounds.

A small order has the same attention as an order for a ton.

SPECIAL GOODS.

This is the time when you should order odd size or special goods. Our busy season is over and we can do almost any work in wood you want, either for bee-keepers or others.

We make a specialty of packing-boxes, from the size of a section-box up. Let us figure with you.

FEEDERS.

How about your winter stores? Are you sure your bees have enough? Should it be necessary to feed you can't do it easier than with our Division-Board Feeder. This is made to hang like a frame in a Langstroth hive. Price, 20 cents each, complete. Less in quantities.

Honey-Labels.

Do you use labels for your honey? Are they really ATTRACTIVE labels? If you do not you may be losing many sales because your honey lacks attractiveness. You can't expect to market your honey at the best price unless you use every care in putting it up. Send for our label catalog and see our 1, 2, and 3 color labels.

Tin Packages for Honey.

If you are one of the people who market extracted honey in small lots you will find our pails just what you want. A dozen sizes and kinds to select from. We also furnish square cans—1-quart, 2-quart; 1-gallon and 5-gallons. A single can or carload, as you wish. Write for prices.

Gleanings in Bee-Culture.

When our advertisers write us that their advertisements have paid them well, we know GLEANINGS IN BEE-CULTURE must be read by the best bee-keepers. We know, too, that GLEANINGS is appreciated, for our circulation is increasing all the time. Send 25c for a six months' trial and get A. I. R's Notes of Travel and hundreds of other interesting things.

Comb-Foundation Mills.

Perhaps you are so far from us and rates are so high that you want to make your own foundation.

Our mills are being improved constantly. If you want to purchase a foundation mill, send for package of samples showing different styles we can furnish. Send 2c stamp for these.

Bushel Boxes.

Bee-keepers are always looking for labor-saving ideas. Have you ever read our 16-page pamphlet, "Handling Farm Produce?" It is full of information and gives prices of bushel boxes and other things. Free for the asking.

HONEY-EXTRACTORS.

"**Operator No. 6** puts the honey-combs in the extractors, which is a **Cowan** 4-frame reversible, with ball-bearings and lever-brake—in short, the **best extractor on the market.**"

Extract from article of N. E. France, of Wisconsin, in June Review. No one is better qualified to judge the worth of an extractor than Mr. France. He says the ROOT COWAN IS THE BEST.

Thousands of others say so.

Glass Honey-Packages.

We have all sizes of Mason Jars with aluminum or porcelain-lined caps. Also Jelly Tumblers, two sizes; Glass Pails, four sizes; and Self-Sealing Jam Jars. Besides these we still have the four sizes square jars, which have long been on the market. Don't forget us when you need glass packages for honey.

RUBBER STAMPS.

Have you ever thought how handy it would be to use a rubber stamp to mark your honey-cases, showing the grade? Then, too, if you sell in the home market you ought to have your name on the case so it would be returned. We make stamps of all kinds for all sorts of purposes. Let us send you our rubber stamp circular.

QUEENS.

We don't say much about our queens, do we? I suppose some of our friends wonder why. Let us tell you: We began selling queens many years ago. We know all about the business from A to Z. We have the best breeding queens to be found in this country or Italy, and the best apiarist to be had. The result is our 400 colonies do not begin to furnish enough queens for our orders. Our queens are **unsurpast.**

You will find it so if you buy them.

HONEY.

We buy a number of carloads of comb and extracted honey each year. If you have secured a good crop send us your offer. You don't have to worry about the returns if you sell to us.

If you have extracted honey send sample. If you have failed to secure enough for your home market, let us supply you. We have honey engaged all over the country, and can ship direct from the producer, many times.

AGENCIES.

A list of our principal agencies will be mailed you on request. We can ship from stock such items as our regular Hives, Sections, Foundation, Extractors, etc., from these agencies.

Send your order direct to us, if you prefer, and request that we ship from nearest point, and we will do so, saving you freight charges and giving you quick delivery.

THE A. I. ROOT COMPANY, Medina, Ohio.

Chicago Convention Program.—The following is the program of the 31st annual convention of the National Bee-Keepers' Association, to be held at Chicago, Ill., Tuesday, Wednesday, and Thursday, Aug. 28, 29, and 30, 1900, the sessions to be held in Wellington Hall, 70 North Clark St.:

FIRST SESSION—TUESDAY EVENING.

Call to order at 7 o'clock.
Song—Dr. C. C. Miller, of Illinois.
"How to Sell Honey"—S. A. Niver, of New York.
"Keeping Bees in a City"—L. Kreutzinger, of Illinois.
Question-Box.

SECOND SESSION—WEDNESDAY MORNING, 9:30.

Song.
Invocation.
President's Address—E. R. Root, of Ohio.
"Queen-Rearing by the Doolittle Method"—Mrs. H. G. Acklin, of Minnesota.
Question-Box.

THIRD SESSION—WEDNESDAY AFTERNOON, 1:30.

Song.
"Bee-Keepers' Rights and Protection by Law"—Herman F. Moore, of Illinois.
"Trials of the Commission Man"—R. A. Burnett, of Illinois.
Question-Box.

FOURTH SESSION—WEDNESDAY EVENING, 7:30.

"Breeding for Longer-Tongued Bees"—J. M. Rankin, of the Michigan Experiment Station.
"Bee-Keepers I Have Met and Apiaries I Have Visited"—E. R. Root, of Ohio, assisted by Dr. C. C. Miller, Dr. A. B. Mason, E. T. Abbott, and others. Illustrated by a stereopticon.

FIFTH SESSION—THURSDAY MORNING, 9:30.

Song.
"Various Forms of Diseases Among Bees; Cause and Cure"—Dr. Wm. R. Howard, of Texas.
Report of the General Manager—Hon. Eugene Secor, of Iowa.
"Pure-Food Legislation"—Rev. Emerson T. Abbott, of Missouri.
Question-Box.

SIXTH SESSION—THURSDAY AFTERNOON, 1:30.

Song.
"Chemistry of Honey and How to Detect Its Adulteration"—Thos. Wm. Cowan, of California.
"How to Ship Honey to Market, and in What Kind of Packages"—George W. York, of Illinois.
Question-Box.

SEVENTH SESSION—THURSDAY EVENING, 7:30

"Co-operative Organization Among Bee-Keepers"—R. C. Aikin, of Colorado.
"My Trip Thru Wisconsin and Minnesota"—W. Z. Hutchinson, of Michigan. Illustrated by a stereopticon.
Unfinisht Business.
Adjournment.

One prominent feature of the next convention will be the stereopticon work. Messrs. Root and Hutchinson, with a powerful stereopticon, will project upon the screen some photos they have taken of apiaries they have visited in various portions of the United States. The convention will be held in Wellington Hall, 70 North Clark Street, about a block and a half from the office of the American Bee Journal, and about five blocks directly north of the Court-house. The hotel at which delegates may secure lodging is the Revere House, about half a block from the convention hall. The rate for lodging will be 50 cents per night, and the proprietor has assured Mr. York that good beds are provided, but that several will have to occupy the same room. But when any one desires a room with a single bed, the charge will be $2.00 per night. If two men wish to take a single room in that way they can do it, sharing the expense between them. Some G. A. R. people will pay 75 cents per night for a single bed, so bee-keepers are specially favored at 50 cents. The hotel is almost within a stone's throw of the convention hall, and right near the hall are first-class restaurants, where meals can be secured at reasonable rates.

It is a little too early yet to announce what the railroad rates will be during G. A. R. week; but it is assumed that they will be low, probably a cent a mile each way.

Chicago is a central point, and there will undoubtedly be a large attendance; and, considering the attractions, it is earnestly hoped that bee-keepers will turn out in good, strong force.

E. R. Root, *President*.
Dr. A. B. Mason, *Secretary*.

If You Want Bees

That will just "roll" in the honey, try **Moore's Strain of Italians,** the result of 21 years of careful breeding. They have become noted for honey-gathering, whiteness of cappings, etc., thruout the United States and Canada.

Warranted Queens, 75c each; 6 for $4.00; 12 for $7.50. Select warranted, $1.00 each; 6 for $5.00; 12 for $9.00. Strong 3-frame Nucleus with warranted Queen, $2.50. Safe arrival and satisfaction guaranteed. Circular free.

27Dtf **J. P. MOORE** (lock box 1) **Morgan, Ky.**

Please mention Bee Journal when writing.

Italian Queens!

reared from the best 3-band honey-gatherers, by the Doolittle method. Untested, 45 cents each; 1 dozen, $4.50. Tested, 75 cents each; 2-frame Nucleus, with tested queen, $1.75 each. No disease. Safe arrival.

W. J. FOREHAND,
19D12t **FORT DEPOSIT, ALA.**

Albino Queens

by return mail. Untested, 75 cts.; warranted, $1.00; tested, $1.25.

12A26t **J. D. GIVENS, LISBON, TEX.**

Please mention Bee Journal when writing.

Italian Queens.

	1	3	6
Untested Queens	$0.90	$2.50	$4.50
Select Untested Queens	1.25	3.25	6.00
Tested Queens	1.25	3.50	7.00
Select Tested Queens	2.00	5.00	9.00

These Queens are reared from honey-gatherers. Orders filled in rotation. Nothing sent out but beautiful Queens.

27A9t **D. J. BLOCHER, Pearl City, Ill.**

Please mention Bee Journal when writing.

GENERAL ITEMS

Cleome and Its Honey.

I merely scatter cleome seed any and everywhere soon after gathering, and Nature does the rest. With us it produces the whitest and best-flavored honey of any plant that grows here.

Bees are doing fairly well, but they swarmed a little too much. We expect considerable late flow from cleome.

W. H. Hough.
Santa Fe Co., N. Mex., July 30.

White Clover and Basswood Failed.

Bees have done very poorly so far. White clover and basswood were complete failures. It has rained nearly every day this month, and I think fall flowers will be all right.

H. H. Porter.
Sauk Co., Wis., July 30.

A Very Deceptive Season.

This has been a very deceptive season (I suppose that would be the proper word for it), as it has been holding out inducements for a good season almost, or in fact all, of the time since it commenced raining, about the middle of

Sharples Cream Separators: Profitable Dairying

DITTMER'S FOUNDATION

Wholesale and Retail

This foundation is made by an absolutely non-dipping process, thereby producing a perfectly clear and pliable foundation that retains the odor and color of beeswax, and is free from dirt.

Working wax into foundation for cash, a specialty. Write for samples and prices.

A full line of Supplies at the very lowest prices, and in any quantity. Best quality and prompt shipment. Send for large, illustrated catalog.

GUS. DITTMER, Augusta, Wis.
Beeswax Wanted.

Please mention Bee Journal when writing.

ELECTRIC HANDY WAGONS

excel in quality, strength, durability. Carry 4000 lbs. They are Low priced but not cheap. Electric Steel Wheels—straight or staggered oval spokes. Any height, any width of tire to fit any wagon. Catalogue FREE.

ELECTRIC WHEEL CO., Box 16. Quincy, Ills.

Please mention Bee Journal when writing.

The Emerson Binder

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

GEORGE W. YORK & CO.
118 Michigan Street, CHICAGO, ILL.

The Bee-Keeper's Guide

Or, Manual of the Apiary,

—BY—

PROF. A. J. COOK.

460 Pages—16th (1899) Edition—18th Thousand—$1.25 postpaid.

A description of the book here is quite unnecessary—it is simply the most complete scientific and practical bee-book publisht to-day. Fully illustrated, and all written in the most fascinating style. The author is also too well-known to the whole bee-world to require any introduction. No bee-keeper is fully equipt, or his library complete, without THE BEE-KEEPERS' GUIDE.

This 16th and latest edition of Prof. Cook's magnificent book of 460 pages, in neat and substantial cloth binding, we propose to GIVE AWAY to our present subscribers, for the work of getting NEW subscribers for the American Bee Journal.

Given for TWO New Subscribers.

The following offer is made to PRESENT subscribers only, and no premium is also given to the two NEW subscribers—simply the Bee Journal for one year:

Send us TWO NEW SUBSCRIBERS to the Bee Journal (with $2.00), and we will mail you a copy of Prof. Cook's book FREE as a premium. Prof. Cook's book alone sent for $1.25, or we club it with the Bee Journal for a year—both for only $1.75. But surely anybody can get only TWO NEW SUBSCRIBERS to the Bee Journal for a year, and thus get the book as a premium. Let every body try for it. Will YOU have one?

GEORGE W. YORK & CO.,
118 Michigan Street, CHICAGO, ILL.

BY RETURN MAIL.

Golden Beauty Italian Queens,
Reared from imported mothers.

Untested, 50 cts.; 12 Untested, $5.50; Tested, $1.
J. S. TERRAL & CO., Lampasas, Texas.
18Atf Please mention the Bee Journal.

June; but there has been but very little nectar in anything, it seems, so we will have to chronicle another poor season. A few good honey-days would give me a nice crop of honey, as my bees are in nice shape to gather it. The pastures are eaten off too close in this country. Perhaps we will get enough honey this fall for them to fix up for winter. I certainly hope so.

W. C. NUTT.
Hardin Co., Iowa, July 28.

Half a Crop of Honey.

We have harvested a big wheat crop and a good half crop of honey—far better than expected. We had one of the worst drouths in May and June for many years, and now we are having plenty of rains, and it looks as if we will have a good corn crop.

I expect to attend the Chicago convention Aug. 28, 29 and 30.

L. A. HAMMOND.
Washington Co., Md., July 30.

Bees Starving—No Honey.

Our bees are starving—a state of affairs that I have never seen or heard of in this part of the country at this time of the year. We have had no honey since fruit-blossoms to amount to anything. This makes three poor years here in succession. I think that we are overstockt with bees. It does not take many bees to overstock here in a poor season.

GEO. W. STINEBRING.
Wayne Co., Ohio, July 23.

No Rain for Over Three Years.

Three and a half years have gone by since we have had a good rain here, yet I am now growing nice watermelons, and these without irrigation, with well-water 60 feet below the surface. Bees on the great ranges are weak or dead.

DR. PEIRO.
34 Central Music Hall, CHICAGO.

Please mention Bee Journal when writing.

The Mississippi Valley Democrat
—AND—
Journal of Agriculture,
ST. LOUIS MO.

A wide-awake, practical Western paper for wide-awake, practical Western farmers, stock-raisers, poultry people and fruit-growers, to learn the science of breeding, feeding and management. Special departments for horses, cattle, hogs, sheep, poultry and dairy. No farmer can afford to do without it.

It stands for American farmers and producers. It is the leading exponent of agriculture as a business, and at the same time the champion of the Agricultural States and the producer in politics. **Subscription, One Dollar a Year.**

☞ **Write for Sample Copy**

Golden Italian Queens.

By return mail, 75 cents each; $7 50 per dozen. They pleased every customer this year; well, why not? They are the prettiest, gentlest and best hustlers you ever saw.

—Muth's—
Square Glass Honey-Jars.

Just the package for home trade. Full line of ROOT'S GOODS at their prices.

HONEY.

Have you any FANCY WHITE comb or extracted honey for sale? Also beeswax wanted.

C. H. W. WEBER,
2146 Central Ave., Cincinnati, Ohio.

BEES FOR SALE

Full colonies of good stock shipt in 8-frame hive, complete, $4 00; in 10-frame hive, $4.50.
B. A. ALDRICH, Smithland, Woodbury Co., Iowa
33A2t Please mention the Bee Journal.

ARE YOU FULL OF GINGER? If you want health and vigor, good appetite and sound sleep, take **LAXATIVE NERVO-VITAL TABLETS,** the quick and safe cure for Constipation, Nervous Dyspepsia, Insomnia, Nervous Affections, the "Blues" and all attendant evils. It aids digestion, purifies the blood, strengthens the nerves, improves the appetite, induces sweet sleep, tones up the whole system and makes you a new creature. It not only makes you *feel* well, it makes you *really* well. It gives you that vim and vigor which makes life worth living.

LAXATIVE NERVO-VITAL TABLETS

F.B.W.Co.

It contains no narcotics nor bromides nor other injurious drugs. We give the formula with every box. You know exactly what you are taking. Originally put up for physicians' use. Ask your druggist for a **FREE SAMPLE.** If he hasn't it, don't take a substitute, but send us a stamp for our book on "Health" and we will send you a free sample, sufficient for you to try it and test its merits to your own satisfaction. *Isn't it worth trying free?* It positively cures. Price 10c and 25c per box. Don't delay sending.

The Modern Remedy Co., Kewanee, Ill.

Here, orange and alfalfa bloom carry them over. H. M. JAMESON.
Riverside Co., Calif., July 28.

Prospect for a Fall Crop.

There is not much white clover honey here. It was cut short by drouth. Basswood was ruined by hot weather. There is a splendid prospect for a fall flow, now commencing.

I expect to attend the Chicago convention. F. M. BOWDISH.
Ingham Co., Mich.

BEEDOM BOILED DOWN

Keeping Things in Place.—I have investigated quite thoroly, and find that it is a very rare thing for any man or woman who "has a place for everything and everything in its place," to make a failure in anything they turn their hand to. And in nothing is this more applicable than in bee-keeping. Many times have I been to the places of those who told me "bee-keeping did not pay," only to find the greatest disorder. When askt for the smoker to use in looking at a colony of bees, the proprietor did not know just where he left it last, and after a search it was found just where he had dropt it after using it the last time. Hives were leaning in every direction, grass uncut, combs thrown about, being destroyed by the moth, and tools and utensils lying out in the weather going to decay. Ah, no wonder there is no money in such bee-keeping.—G. M. Doolittle, in Progressive Bee-Keeper.

Best Smoker-Fuel—How Used.—All things considered, I have come to the opinion that planer-shavings or hand-hole sawdust—a stringy kind of excelsior made by means of a wabbling saw—makes the best kind of smoker-fuel—the most lasting and the densest smoke; but in order to get good results one must throw in but a very little of the shavings, light a match, and work the bellows until the fuel is reduced to live embers. Throw in some more, and treat them in the same way. It is then possible to cram in the planer-shavings, pushing them *down hard*. Next fill the nozzle, in the same way, snap it back into place, and we are ready for an hour or two hours' work. If the smoker is kept full there is no blowing of sparks into the hive. This treatment is especially adapted to the Crane smoker, for it has a powerful direct blast. It may also be used for the Bingham and Corneil; but with either of these less cramming of the fuel is advisable.—Gleanings in Bee-Culture.

Points in Peddling Honey.—Mr. J. C. Stewart, of Missouri, has had quite a little experience in peddling honey. In a letter he gives a few interesting points, some of which are as follows:

When he goes to a town he goes prepared to stay two weeks, if necessary; taking along a change of clothing. Instead of stopping at a hotel, he hunts up some boarding-house where he can get board at about $3.00 a week, and pay for the same in honey. In canvass-

SPECIAL NOTICE!

Last winter's cut of basswood is the whitest it has been for many seasons. We are now making sections out of this new stock and therefore are in a position to furnish you with the very finest quality in the market.

LEWIS WHITE-POLISHT SECTIONS

Are perfect in workmanship and color.

Orders shipt immediately upon receipt. A complete line of everything needed in the apiary. Five different styles of Bee-Hives.

Lewis Foundation Fastener simplest and best machine for the purpose. Price, ONE DOLLAR, without Lamp.

G. B. LEWIS CO., Watertown, Wis., U.S.A.

BRANCHES:
G. B. LEWIS Co, 19 So. Alabama St., Indianapolis, Ind.
G. B. LEWIS Co., 515 First Ave., N. E., Minneapolis, Minn

AGENCIES:
L. C. WOODMAN..........Graud Rapids, Mich.
FRED FOULGER & SONS..........Ogden, Utah.
E. T. ABBOTT, St. Joseph, Missouri.
Special Southwestern Agent.

SEND FOR CATALOG.

Four Celluloid Queen-Buttons Free
AS A PREMIUM.

OUR TOIL DOTH SWEETEN OTHERS

OUR TOIL DOTH SWEETEN OTHERS

For sending us **ONE NEW SUBSCRIBER** to the Bee Journal for the balance of this year, with **50 cents**, we will mail you **FOUR** of these pretty buttons for wearing on the coat-lapel. (You can wear one and give the others to the children.) The queen has a golden tinge. This offer is made only to our present regular subscribers.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate, it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

Prices of Buttons alone, postpaid: One button, 8 cts.; 2 buttons, 6 cts. each; 5 or more, 5 cts. each. (Stamps taken.) Address,

GEORGE W. YORK & CO., 118 Michigan St., CHICAGO.

High Grade Italian Queens

One Untested Queen	$ .60
One Tested Queen	.80
One Select Tested Queen	1.00
One Breeder	1.50
One-Comb Nucleus	1.00

27 Years Rearing Queens for the Trade.
We Guarantee Safe Arrival.

J. L. STRONG,
14Atf CLARINDA, Page Co., IOWA.
Please mention Bee Journal when writing

☞ IF YOU WANT THE BEE-BOOK

That covers the whole Apicultural Field more completely than any other publisht, send $1.25 to Prof. A. J. Cook, Claremont, Calif., for his

Bee-Keepers' Guide.

Liberal Discounts to the Trade.

Best on Earth

What? Our **New Champion Winter-Case**. And to introduce it thruout the United States and Canada we will sell them at a liberal discount until Oct. 15, 1900. Send for quotations. We are also headquarters for the NO-DRIP SHIPPING-CASES.
R. H. SCHMIDT & CO.
Shehoygan, Wisconsin.

Second-Hand 60-pound Tin Cans Cheap!

We have a stock of second-hand 60-pound Tin Cans, put up two in a box, which are practically as good as new, each can having been carefully inspected by an expert honeyman before boxing them. While they last, we can furnish them at these low prices—just about one-half the cost of new cans:

5 boxes (or 10 cans) 50 cents per box; 20 boxes or over, 45 cents per box; 100 boxes or over, 40 cents per box.

Address, cash with order,

GEORGE W. YORK & CO.
118 Michigan Street, CHICAGO, ILL.

QUEENS!

Untested Queens, Italian, 60 cents. Tested, $1.00.
From honey-gathering stock.
We keep in stock a full line of popular Apiarian Supplies. Catalog free.

Apiaries—Glen Cove, L. I. I. J. STRINGHAM, 105 Park Place, New York, N. Y.
Please mention Bee Journal when writing

BEE-BOOKS

SENT POSTPAID BY

George W. York & Co. 118 Mich. St. Chicago.

Bees and Honey, or Management of an Apiary for Pleasure and Profit, by Thomas G. Newman.—It is nicely illustrated, contains 160 pages, beautifully printed in the highest style of the art, and bound in cloth, gold-lettered. Price, in cloth, 75 cents; in paper, 50 cents.

Langstroth on the Honey-Bee, revised by Dadant.—This classic in bee-culture has been entirely re-written, and is fully illustrated. It treats of everything relating to bees and bee-keeping. No apiarian library is complete without this standard work by Rev. L. L. Langstroth—the Father of American Bee-Culture. It has 520 pages, bound in cloth. Price, $1.25.

Bee-Keepers' Guide, or Manual of the Apiary, by Prof. A. J. Cook, of the Michigan Agricultural College.—This book is not only instructive and helpful as a guide in bee-keeping, but is interesting and thoroly practical and scientific. It contains a full delineation of the anatomy and physiology of bees. 460 pages, bound in cloth and fully illustrated. Price, $1.25.

Scientific Queen-Rearing, as Practically Applied, by G. M. Doolittle.—A method by which the very best of queen-bees are reared in perfect accord with Nature's way. Bound in cloth and illustrated. Price, $1.00.

A B C of Bee-Culture, by A. I. Root.—A cyclopædia of 400 pages, describing everything pertaining to the care of the honey-bees. Contains 300 engravings. It was written especially for beginners. Bound in cloth. Price, $1.20.

Advanced Bee-Culture, Its Methods and Management, by W. Z. Hutchinson.—The author of this work is a practical and entertaining writer. You should read his book; 90 pages, bound in paper, and illustrated. Price, 50 cents.

Rational Bee-Keeping, by Dr. John Dzierzon.—This is a translation of his latest German book on bee-culture. It has 350 pages, bound in paper covers, $1.00.

Bienen-Kultur, by Thos. G Newman.—This is a German translation of the principal portion of the book called "Bees and Honey." 100-page pamphlet. Price, 25 cents.

Bienenzucht und Honiggewinnung, nach der neuesten methode (German) by J. F. Eggers.—This book gives the latest and most approved methods of bee-keeping in an easy, comprehensive style, with illustrations to suit the subject. 50 pages, board cover. Price, 50 cents.

Bee-Keeping for Beginners, by Dr. J. P. H. Brown, of Georgia.—A practical and condenst treatise on the honey-bee, giving the best modes of management in order to secure the most profit. 110 pages, bound in paper. Price, 50 cts.

Bee-Keeping for Profit, by Dr. G. L. Tinker.—Revised and enlarged. It details the author's "new system, or how to get the largest yields of comb or extracted honey." 80 pages, illustrated. Price, 25 cents.

Apiary Register, by Thomas G. Newman.—Devotes two pages to a colony. Leather binding. Price, for 50 colonies, $1.00; for 100 colonies, $1.25.

Dr. Howard's Book on Foul Brood.—Gives the McEvoy Treatment and reviews the experiments of others. Price, 25 cents.

Winter Problem in Bee-Keeping, by G. R. Pierce.—Result of 25 years' experience. 30 cts.

Foul Brood Treatment, by Prof. F. R. Cheshire.—Its Cause and Prevention. Price, 10 cts.

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Capons and Caponizing, by Dr. Sawyer, Fanny Field, and others.—Illustrated. All about caponizing fowls, and thus how to make the most money in poultry-raising. 64 pages. Price, 20c.

Our Poultry Doctor, or Health in the Poultry Yard and How to Cure Sick Fowls, by Fanny Field.—Everything about Poultry Diseases and their Cure. 64 pages. Price, 20 cents.

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ing for orders he offers his prospective customer a taste of honey. If there is any hesitancy in getting a spoon, he takes a square of paper from a pad that he carries, and pours a small quantity upon the square of paper. He also carries a damp cloth in his pocket to clean the jar if it becomes sticky. If they begin to talk about adulteration and imitation honey, he draws from his pocket a photograph of his apiary, showing himself in the yard, which seems to create an impression that he must be a "sure-enough" bee-man. In taking orders he writes down simply the street and number, not bothering to get names. He canvasses two days, and then delivers. Before starting out to deliver he takes a piece of pasteboard and draws a map of the district in which he has to deliver, marking out the streets and numbers where he has to call and the amounts to deliver, thus being able to lay out a route to the best advantage.—Bee-Keepers' Review.

The Globe Bee-Veil.—One can wear any kind of hat with it except a plug, and his face will be absolutely protected. Besides the convenience of wearing the every-day head-gear that always feels comfortable, one has the added security, real as well as fancied, of having the veil held *clear away from the neck, face and head* by means of the skeleton-like globe steel springs.

Yesterday at our out-yard, when two or three of the crossest bees made a dive for the back of my neck, I did not have the feeling that *perhaps* the veil was touching me at some spot where the rascals could get in a good jab. No, I had the satisfaction of knowing that those parts were invulnerable. At another time, when I received an onslaught from a hive of cross bees, and which stand as guardians over the whole apiary against the intrusions of thieves, I had the pleasure of seeing (even tho at close range) that my nose was a good big inch from the mesh of the veil.

I am not sure but if I were to work in the apiary day in and day out that I would use it exclusively; for one of the things I do like is to wear a hat I am used to. The ordinary cap will not support the average veil in a way that protects one properly, and I very often wear a cap, and with that the globe is just the thing.—E. R. Root, in Gleanings in Bee-Culture.

Introducing Queens.—The best possible plan for an expert may be a very poor one for a novice. To illustrate: I have for the past two years guaranteed the safe introduction of the queens that I have sold. Last year I advised the caging of the queen against the side of a comb of hatching brood. There were some failures; mostly, I believe, thru lack of thoroness in details—the management was such that the bees burrowed under the cage and releast the queen too soon. This year I am advising purchasers to let the bees release the queen by eating out the candy from the end of the shipping-cage; taking the extra precaution to have all of the brood removed from the colony until the queen begins laying. The failures are very few, indeed. I think, however, that the only really infallible method is to release the queen upon combs of hatching

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brood, with no bees present except the young bees that hatch from the combs. —Bee-Keepers' Review.

Speaking of Robbing, many times the very best thing is to do nothing. When robbers get started on a weak queenless colony, it is about as well to let them finish up first as last. If there is much honey in the hive it can be taken out, leaving just a little for the robbers to finish up. If the colony is strong enough to be worth saving, giving it a queen will make it pluck up courage to defend itself. — Gleanings in Bee-Culture.

Preventing the Biting of Cappings. —Mr. Hairston, of Indian Territory, writes that he finds the bees more loth to leave the supers after the harvest is over than during the honey-flow. It is at this time, that is, after the harvest, that they are inclined to bite the cappings when disturbed. He says that he noticed that they did not bite cappings so long as there was unsealed honey for them to fill up on; taking a hint from this, he pours a little extracted honey on the escape-board, near the escape, when putting the board in place, and in this way he entirely prevents the biting of cappings. Another thing: For some reason the bees leave the super more readily when the honey is used.—Bee-Keepers' Review.

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WE HAVE IT AT LAST!

We have finally succeeded in getting a SMALL quantity of the seed of the YELLOW variety of sweet clover. This kind blooms from two to four weeks earlier than the common or white variety of sweet clover. It also grows much shorter, only about two feet in hight. It is as much visited by the bees as the white, and usually comes into bloom ahead of white clover and basswood. We offer the seed as a premium

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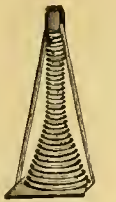

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The MONETTE Queen-Clipping Device is a fine thing for use in catching and clipping Queens wings. We mail it for 25 cents; or will send it FREE as a premium for sending us ONE NEW subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,

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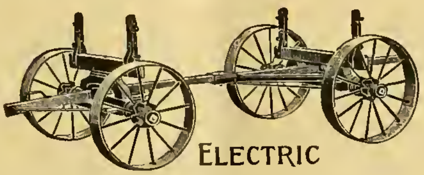
THE BOXERS OF CHINA are attempting to solve a gigantic problem, but they are going about it in the wrong way, and will never succeed. Some people, in this country, seem to think that they have as great a puzzle on their hands in selecting a location for a home. They will certainly go about it in the wrong way unless they inspect the beautiful farming country on the line of the Chicago, Milwaukee & St. Paul Railway, in Marinette County, Wisconsin, where the crops are of the best, work plenty, fine markets, excellent climate, pure, soft water; land sold cheap and on long time. Why rent a farm when you can buy one for less than you pay for rent? Address C. E. Rollins, Land Agent, 161 La Salle St., Chicago, Ill.



ELECTRIC

"The Wheels of Progress."

Now that a political compaign is on, we may expect to hear a good deal from the spell-binders of all parties about the "wheels of progress." One cannot always be sure what the political orator thinks he means, but if he is really interested in the "wheels of progress," we might take him into almost any farmyard and show him the real article.

We say "almost any" farmyard—because the use of the Handy low-down farm wagon is becoming almost universal, and it is on these wagons that we find the real wheels of progress. The truth is that no progressive farmer is content, now, to use one of the old high-wheeled wagons when he can get a "Handy" for less money.

This is a question every farmer should consider before his fall hauling is on hand. One man with a "Handy" will do nearly as much work as two men with a high wagon, and the broad tires of the "Handy" prevent rutting, and roll easily over ground where a narrow-tired wagon would mire.

The Handy wagon with broad tires has come to stay. The leaders in their manufacture are the Electric Wheel Co., of Quincy, Ill. They make also, low steel wheels, with any width tire, to fit any wagon. Send for descriptive catalog and prices. You will be surprised to learn how cheaply you can get a set of wheels for your old wagon. Mention the Bee Journal.

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WOOL MARKETS AND SHEEP, CHICAGO, ILL.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Aug. 7.—Fancy white comb honey is selling at 15c per pound, with No. 1 grades bringing 14@15c. There is not much demand at present, and will not be until this hot spell shall pass. Very few amber grades on the market and yet what there is does not sell. Extracted white, 7@7½c: amber, 6½@6¾c; dark, 6@6½c Beeswax, 28c. R. A. BURNETT & CO.

CINCINNATI, Aug. 8.—The demand for extracted honey is slow, while the shipments are many. I quote as follows: White clover, 8@8½c; Southern and amber, 6½@7c. Comb honey sells as fast as it arrives at the following prices: Fancy, 16@16½c; No. 1, 15c. Beeswax, good demand, 25c. C. H. W. WEBER.

BOSTON, Aug. 8.—Fancy 1-pound cartons, 17c; A 1, 15@16c; No. 1, 15c; No. 2, 12@13c. Extracted honey from 7½@8½c, as to quality.

It is too early in the season and too warm for any inquiry on honey, so prices named are only nominal. The prospects in this vicinity seem to be for a light crop. BLAKE, SCOTT & LEE.

BUFFALO, July 20.—For strictly fancy white one-pound comb honey we are getting 16@17c. Any grade sells high—10@15c, as to grade. BATTERSON & CO.

KANSAS CITY, July 20.—We quote: New No. 1 white comb, 14@15c; No. 1 amber, 14c; dark, 13c. Extracted, old, 6@6½; no new in market. Beeswax, 22@25c. C. C. CLEMONS & CO.

DETROIT, Aug. 10—Fancy white comb, 14@15c; No 1, 13@14c; no amber or dark to quote. White extracted, 6½@7c. M. H. HUNT & SON.

NEW YORK, July 26.—There is a fair demand for white comb honey, and enough arriving from the South to supply the demand. Fancy white sells at 15c; No. 1 white, 13@14c; No. 2 white, 11@12c. Extracted remains rather quiet, and the market is sufficiently stockt to meet the demand. Beeswax very firm at 28@29c. HILDRETH & SEGELKEN.

SAN FRANCISCO, July 18.—White comb, 12@12½c; amber, 9@11; dark, 6½@7½c. Extracted, white, 7½@8c; light amber, 7@7¼c; amber, 6@6½c. Beeswax, 26@27c.

Amber grades are in fair supply, both comb and extracted, and there is a moderate business doing in the same at prevailing figures, mostly in a small jobbing way and on local account. Large dealers are purchasing only to fill immediate orders, not caring to stock up at present prices. Water-white honey is scarce and in a limited way is salable at tolerably stiff figures.

WANTED—HONEY AND BEESWAX.
We have a tremendous and growing trade in this line, and would like to hear from all who have such goods to sell in any part of the country, with quality, description, and lowest cash price. THOS. C. STANLEY & SON, Fairfield, Ill.

WANTED COMB HONEY AND EXTRACTED HONEY. Will buy your honey, no matter what quantity. Mail sample with your price expected delivered in Cincinnati. I pay cash on delivery. C. H. W. WEBER, 2146 Central Ave., CINCINNATI, OHIO.

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What have you to offer and at what price?
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HENRY ALLEY, Wenham, Mass.
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25 cents Cash paid for Beeswax.

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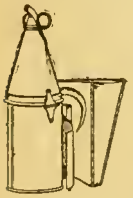

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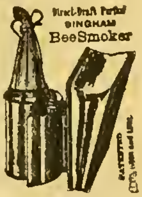
Prices; Heavy Tin Smoke Engine, four-inch Stove, per mail, $1.50; 3½-inch, $1.10; three-inch, $1.00; 2½-inch, 90 cents; two-inch, 65 cents.



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has concluded to sell **QUEENS** in their season during 1900, at the following prices:

1 Untested Queen	$1.00
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Select Tested Queen, last year's rearing	2.50
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We guarantee satisfaction.

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Langstroth on the Honey-Bee, Revised.

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DR. MILLER'S

Honey Queens

One Untested Queen Free as a Premium for sending ONE New Subscriber to the American Bee Journal for one year.

We have been fortunate in making an arrangement with DR. C. C. MILLER—the well-known honey-specialist—to rear queens **EXCLUSIVELY FOR US DURING THE SEASON OF 1900.** These Queens will be mailed in rotation, so "first come first served."

The Queens Dr. Miller will send out on our orders will be precisely the same as those he rears for his own use, so of course they will be from his best stock. His best colony in 1899 had a queen reared in 1898; May 5, 1899, it had brood in 4 frames, and he gave it at that time a frame of brood without bees. It had no other help, but May 25 a frame of brood with adhering bees was taken from it, and the same thing was repeated June 3, leaving it at that time 5 frames of brood. It stored 178 sections of honey, weighing 159 pounds (and that after July 20, in a poor season), being 2⅔ times the average yield of all his colonies. A point of importance is the fact this colony did not swarm, and an inspection every week or 10 days showed that at no time during the entire season was there even so much as an egg in a queen-cell. Dr. Miller rears queens from this one.

The demand nowadays is for **BEES THAT GET THE HONEY** when there is any to get, and Dr. Miller has such bees. You will want to have a queen from his best, we are sure, even if she is not pure Italian.

Do not send any orders to Dr. Miller, as all orders **MUST** come thru us, according to our agreement.

Remember, send us $1.00 for **ONE NEW SUBSCRIBER** to the American Bee Journal for one year, and **YOU** will get ONE OF DR. MILLER'S UNTESTED HONEY-QUEENS FREE AS A PREMIUM. This offer is made *only* to our present regular subscribers. Orders for queens are to be filled in rotation.

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118 Michigan Street, CHICAGO, ILL.

GEORGE W. YORK, Editor.

AMERICAN BEE JOURNAL

ESTABLISHT IN 1861 OLDEST BEE-PAPER IN AMERICA

DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS.

40th YEAR. CHICAGO, ILL., AUGUST 23, 1900. No. 34.

CONTRIBUTED ARTICLES

The Bee-Hive Incubator and How It Works.

BY J. G. NORTON.

THE picture herewith shows only a few of my 55 hives, but will represent my new incubator in a way. The hives, as will be seen, are two-story chaff, that I adopted about 15 years ago, and have been a success for honey and also to hatch chickens. The first story is chaff-packt, four inches back and front, and two inches on the sides. Over the brood-chamber I place a piece of oilcloth or canvas—either will do. I use for the eggs a cushion with hollow center which is the shape of a hen's nest, and will hold from 16 to 50 eggs. The cushion is eight inches thick, and fills the top of the second story within two inches of the top.

Mr. J. G. Norton and His Bee-Hive Incubators.

After the eggs are placed in the nest, or incubator, another small cushion is prest over the eggs, and all are kept warm. The temperature outside may drop 20 to 40 degrees, but that in the nest is kept about the same. I find in this latitude eggs can be set any time after Feb. 15, and as we very seldom get surplus honey here before June 10, all this time can be used to advantage. The eggs need turning only every two or three days, in this way, so it does not need very close watching.

I am entirely satisfied with the plan, and to show how sure I am of the results, I have all spring been setting pure Buff Cochin eggs worth $5.00 a sitting, and have not lost a fertile egg; and the chicks are the best and strongest I ever had.

Be sure to use the strongest colonies as incubators, having at least six combs well filled with brood; then your test will result satisfactorily. McDonough Co., Ill.

Swarming of Bees—A Review of the Subject.

BY PROF. A. J. COOK.

IN looking over several of the bee-books I have been led to wonder if we had all the wisdom regarding the swarming of bees that was desirable. Before starting on the subject proper, I wish to say that I am proud of our bee-books. Dadant's Langstroth is a splendid book. I feel very happy that it is so. Several years ago Mr. Langstroth (who may be called most appropriately "the grand old man," for like all great men, he died not with death) honored us, as he did on several occasions, with a good long visit. He told me that he wisht some one to rewrite his book, and askt me to suggest some one to do the work. I told him that I did not believe that he could do better than to get the Dadants to do it. He followed my advice, and I am sure that neither he nor any other bee-keeper is sorry for the decision. It is excellently well done. A B C of Bee-Culture is also a splendid work of which we may all feel very proud. I have just given it a very thoro reading, and I feel like congratulating the authors and all apiarists the world over for the splendid treatise.

The third work that I have reviewed is that of Thos. W. Cowan. I am likewise very pleased with Mr. Cowan's work, and do not wonder that it is regarded as the most authoritative work of Europe. I think it is remarkably reliable as it is fair and honest. The scientific part is especially able, full and correct. I think all our American bee-keepers, who feel able to do so, would profit by a careful reading of Mr. Cowan's excellent work.

In reading these works it has been suggested to me that an article on swarming might well be written. I find several points with which my experience does not tally. I write the article in no dogmatic spirit, and shall be glad to have the points I make criticised by any one who thinks they deserve criticism.

WHY DO BEES SWARM ?

I think without doubt bees are incited to swarm because of something disturbing their peace. This is most commonly a crowded condition of the hive just at the dawn of the honey harvest. The combs are full of brood, the hive filled with bees, and the bees feel uncomfortably crowded and thus are impelled to divide up or swarm. That this is not the only cause is certain. Bees often swarm when they are not crowded at all. I think the most common cause, other than crowded condition of the hive, is from lack of honey. I have often known starvation to cause bees to swarm out and push for a new home. Here it would seem that they could not improve their condition by swarming, and we must conclude that a disturbed state impels them to act. An untidy condition of the hive also drives bees out, or causes them to swarm. Nearly all bee-keepers in the Northeastern part of the United States have not infrequently had early spring swarms after a cold, disastrous winter. With spring came serious dysentery, and bees, queen and all rusht forth for a new home. While this does not seem so unreasoning as the last, the final result could not be greatly different.

When bees swarm naturally, that is, because of an overcrowded condition of the hive, nearly all the bees that are mature enough to fly, including drones and queen, push out from the hive in the event of swarming. It is not true, however, that the queen leads the swarm, as has often been stated. As early as 1870, I commenced the practice of clipping the queen's wings, and would advise all bee-keepers to do so to-day. Thus I have many times watcht the swarm as it issued from the hive, and likewise noticed the egress of the queen.

I find the queen rarely goes out until the last of the swarming out of the bees. Again, it is often stated that in case the queen does not join the bees in their swarming, either because she cannot or will not; then the bees do not cluster, but return to the hive. The last part of this statement, I think, is invariably true, that the bees will not go off without the queen, but will always return to the hive. It is not true, however, that they will not generally cluster. In my experience they will almost always cluster, I think, indeed, almost as often as the queen goes with them. For I have known, very rarely, however, the bees to go forth with the queen and yet return to the hive without clustering at all.

The time of swarming is generally from eleven to two, or near the midday period; yet I have known the time to vary not a little from this. I have known swarms to come forth at five or six in the afternoon. The late Mr. Moon once told me that he once knew a colony to swarm at the time of full moon, in the moonlight. This erratic swarming as to time, I think is almost always limited to after-swarms, where a young queen goes out with the bees.

The place of clustering is a matter of some interest. A tree or bush seems to be preferred, probably because it is convenient for the bees to cluster on them. I have known a post or fence to serve them in such way. The hight, too, at which the cluster is formed is a matter of interest. It is usual for the first swarm with the old queen to cluster low; while after-swarms, which of course are attended by young queens, may cluster far up in tall trees. I believe I have known clusters as high as 30 feet, in tall trees.

Why do bees cluster at all? is often askt. We must remember that the old queen may not have tried her wings in flight for over a year. That she is able to use her wing-muscles at all is hard to understand. I believe that the clustering is to give her a rest after her first exercise as she flies out, before she takes her long journey perhaps of one or two miles. It has been reported that bees sometimes do swarm and not cluster at all. I have known one case of this kind, myself. It was an after-swarm, and, of course, a young queen went with the swarm.

When do the bees select their new home? is a question of interest. It has been suggested that the bees cluster so that scouts may go forth in search of a new home. I have had positive evidence on several occasions that scouts go forth one, two, or three days before, to look out and, clean out their prospective home. Once it was in the side of a house. The bees were noticed just before the dinner hour, busily going in and out high up by the cornice. It was supposed a colony had entered and taken possession. After dinner, we were surprised to find that the bees had all gone. We supposed that they had found their new home obnoxious. The next day a large swarm came and took possession of the place. I have since known a number of such cases. I have little doubt but that this is always true, and that the bees cluster simply to rest the queen.

The rate of flight of the swarm is very various. I once knew a swarm to fly nearly a mile, and one of my students followed it on foot the whole distance and located its new home. I have known other cases where one would need to be well mounted to keep up with a colony. After-swarms fly with more speed.

We all know that there may be many queen-cells in the old hive when a colony goes forth. I think that a first swarm rarely if ever issues until one of these cells is capt over. Some bees, especially the Carniolans, form an excessive number of such cells. We know that often all these queen-cells are destroyed after the queen emerges from the first one. In case of such destruction the cells are always cut open on the sides. If, on the other hand, the queen liberates herself and comes out to fly forth, the cell is open at the end. In case several swarms are to issue—I have known five swarms to come out one after another from a single colony—the bees guard the queen-cells so that the first hatcht queen cannot destroy the others. As many bee-keepers have observed, rarely several queens go forth with a new swarm. Some of our ablest bee-keepers think that, in such case, the queens have been held for some time in the cells, and in the excitement of swarming, the guards have lost their vigilance, and so several queens rush out with the new swarm. Much more rarely two queens will dwell together in a colony, for a time, both laying eggs.

This article is quite long enough; but I wish to give a few rules which I think every bee-keeper will do well to observe. I believe under ordinary circumstances that we would better be content with but one swarm per colony, each year.

I believe, too, that it is better always to clip the wings of all the queens, as this saves labor, and very likely may save loss, as no swarm will ever go off without a queen.

If, then, we wish only one swarm per colony, it is well worth while to study the most convenient method to limit swarming. I believe by far the best method is the so-called Heddon method. Los Angeles Co., Calif.

Queen-Rearing—Some Things to Remember.

BY G. M. DOOLITTLE.

IT was with more than usual interest I read what was said by Dr. Miller and the editor, on page 409, regarding "Those Premium Dr. Miller Queens," for I have past thru all those experiences myself, and, like Dr. Miller, can truly say, "The chief culprit in the matter [queen-rearing] is that all-prevailing, all-pervading individual, the *weather*." Yes, the weather has all to do with queen-rearing, and the weather has been unusually bad all this season so far here in central New York. But while this has been so, yet *all* should understand, as do Dr. Miller and myself, that not much headway can be made rearing queens north of latitude 42 degrees before about June 1st. Knowing this, is why I keep standing in my advertisement all the time, "Queens in their *season*." By that word "season" is meant the season of central New York; yet many seem to think that Dr. Miller, and other queen-breeders here at the North, can "grind out" queens at pleasure during April and May, no matter whether we have frozen ground, snow or frosts.

And when we tell them they will have to wait, a few are unkind enough to write in "a most discourteous manner," as Editor York tells us about. Others write jokingly, or more often otherwise, if they can not come in just a little ahead of some one else, on account of a queenless colony, or something of the kind, and use such nice words, and express such a kind spirit, that one is almost persuaded to do as they request, to please them.

Dr. Miller well says, "Those sending in last are likely to be among those expecting queens first. It should be remembered, however, that *time* is an essential factor in the rearing of queens, and when there is a large list those that come at the last end should expect their queens in September rather than in June." Dr. Miller seems to have an adaptability to "catching on" in a short time to what it takes other persons years to find out. This is his first season, I believe, at queen-rearing as a business. However that may be, there *is* an item connected with this matter which he has not toucht upon, and one which is very important with those who have been in the business for years; also one which has a very important bearing regarding early orders. That item is, orders carried over from the previous season, and those which accumulate during the winter and spring months, these very often amounting to as many as can be turned off before the first to middle of July. Of course, the ones carried over must come first, then those received during November, December, January, February, March, April and May, in their order. And so it often comes about that an order received on the first of June for a select tested queen can not possibly be filled much before August. That factor—time—plays an especial part in queens of this class.

Let us look at the matter for a moment so as to save hard feelings all around. Suppose we start the cells for those queens on the first day of June; 11 to 12 days in the cell form is the rule, so we count the latter; 10 days from emerging from the cell to laying; 21 days from the time of laying until the first worker-bee emerges from its cell, and five days is short enough time in which to make the selection. Thus, we have 48 days later as the time to send out the first queen of this class, or the 18th day of July. Yet many seem to think such queens can be sent out promptly to meet an order coming in May, say nothing about orders being filled in rotation.

I have written on this matter so that those purchasing queens may use a little more patience and charity toward the nearly "swampt-with-orders" queen-breeder, who is doing his level best to get queens *of the best grade* out as fast as possible to please his customers.

Naturally-Built Comb vs. Comb Foundation.

BY S. A. DEACON.

(Continued from page 516.)

OF course, I fully expect to be told that my arguments are only of the specious kind, and that we are all very well aware that the term "drawing out the foundation" is merely a *facon de parler*, and is not intended to convey the meaning that the bees elongate or extend the side-walls by stretching them. But I don't know so much about that, and believe that seven bee-keepers out of ten are misled by the expression into the belief that the bees have only to, and *do* only, stretch the side-walls out; it disguises from them the real truth, viz.: that the "thinning out" is a laborious and time-consuming process, and during which the scales of wax which the bees are all the time secreting, fall unused to the ground, and thus causing many to overestimate the value of foundation to the bee-keeper.

I hereby repeat—Mr. Dadant's objection to the expression notwithstanding—that it is "ridiculous nonsense" for any maker of foundation to claim an advantage for that having such heavy side-walls as necessitates no addition from the bees in order to complete the comb; for the heavier the side-walls the more costly the foundation (buying wax at 50 cents worth only 25 !), and the more labor for the bees to break down and "remodel," while, all the time, the wax they are secreting is being wasted !

Mr. Dadant, by-the-by, says, *in effect*, that it is as natural for the bees to secrete wax in a flow as it is for fed stock to lay on fat. This (tho not stated in those exact terms, yet distinctly implied) is equivalent to an admission that while engaged in breaking down and remodeling the foundation, the bees *are* secreting (and *wasting*) their own wax. Here Mr. Dadant is at one with Mr. Simmins, tho he won't admit it in as many words. But he is at variance, I see, with Mr. E. T. Abbott, who says that "foundation saves the time of the bees in secreting wax." Is Mr. Abbott quite sure that while the bees are "remodeling" the foundation they are *not* at the same time secreting wax? Has he, in accordance with Mr. Dadant's advice to myself, experimented before writing? Mr. Simmins *has* experimented; he is a notedly careful and observant experimenter; and he asserts, or at least with much reason assumes, that the bees during a flow are secreting wax all the time, and are prepared to give it to us free gratis, for nothing. But no, we prefer furnishing them with foundation at 50 cents per pound and allowing them to drop their own wax on the floor-board, or outside, thus adding the market value of the honey consumed by the bees in making this lost wax (say 40 cents) to the cost of every pound of embost wax we so extravagantly purchase for them! There is more in this matter of naturally built comb *vs.* foundation than at first sight appears; and it would be interesting to know the result of experiments made at Lapeer, Mich., along this line.

Mr. Dadant says, or implies, that only by the use of foundation can we hope to secure straight combs. Now, this means using full sheets, and for the practical honey-producer the times won't run to it. Personally, I find I get perfectly straight combs built from starters, built, too, on wired frames, and it is very seldom that the bees do not include the wires right in the septum; and even tho they should be now and then a trifle out, and not exactly "as level as a board," what does it matter? They are good enough for all practical purposes, and times are too hard to humor the eye at the cost of the pocket.

On page 719 (1897) we find Rev. Mahin and Mr. J. E. Pond both favoring full sheets in sections in order, as they say, to secure straight combs. But Mr. Secor very sensibly remarks, on the same page, that straight combs are not so much the result of using full sheets as of using separators. The only "practical" man of the three I consider to be Mr. Secor. It is surely better economy to buy separators once than full sheets every year. I don't think Mr. Dadant will deny that the late Mr. Allen Pringle was a "practical American bee-keeper," and he included the use of full sheets in his list of the mistakes we make; tho opposed to him in this particular was that other "practical American bee-keeper," the late Mr. B. Taylor, who favored the use of full sheets. So you see, Mr. Dadant, that practicalness has nothing whatever to do with it, for we see the most practical men differing greatly in opinion concerning many matters connected with the conduct of our pursuit.

Mr. Dadant advances, as evidence of value, the "enormous sale" of foundation. Yes, it may be *relatively* enormous, but I doubt if it is really so enormous as compared with the enormous number of apiaries in Canada and the United States. This number is being largely augmented every year, and the new hands, the novices, no doubt use a vast deal more than they really need to, even as they take care to supply themselves with every fad and useless article so enticingly brought to their notice via the supply dealers' illustrated catalogs; but I very much doubt if the old, settled, practical bee-keepers use it to anything like the extent which they formerly did, and that they sell considerably more wax than they buy.

In speaking of the enormous sale of foundation, Mr. Dadant assures us that "the American bee-keepers do not foolishly throw their money away." A man need not necessarily be foolish, and yet be induced to invest immense sums which bring him in no proportionate return; and tho not foolish in most things, some men like a long time to benefit by experience. The same class of men who buy to-day unnecessarily large quantities of foundation—because most of the bee-books gammon them that "they can not use it too freely" (right enough, perhaps, for those who keep a dozen or so colonies for recreation)—have, in the past, spent millions of dollars on the once greatly extolled "Golden Beauties," patent double brood-chamber hives, and on endless appliances and contrivances now obsolete, without which, they were at one time under the impression, they could not profitably carry on their pursuit. The wheel is always agoing round; that which is a-top to-day is at the bottom to-morrow.

Several years ago the American Bee Journal was chock-full of advertisements belauding the virtues of the aforementioned "Golden Beauties." Their sale must have been "enormous." Are they wanted to-day? Undoubtedly not, seeing they are no longer advertised; so that "enormous sales" are by no means always a criterion of an article's actual and permanent worth.

According to Mr. Dadant's dictum, American bee-keepers never waste their money on things they can do without, *i. e.*, they "never foolishly throw their money away," these Golden Beauties must be all that was claimed for them, and the demand for them ought to be as brisk to-day as ever; but as it is not, Mr. Dadant must excuse me for opining that American bee-keepers can no more claim freedom from the charge of occasionally foolishly throwing away their money than can any other class of people; we are all liable to be misled, no matter what our nationality or calling.

However, the wheel has turned, and these "Golden Beauties" are now at the bottom, along with the quilts, which every one is now discarding as a big nuisance and utterly useless, and yet of which it would have been rank heresy to say, several years ago, that we could have done without them. The "enormous sale" which enameled cloth had, when quilts were in vogue, did not prove their necessity for all time, any more than will the present enormous sale of foundation go to prove it as indispensable a necessity as many imagine.

Yes, the wheel turns slowly, indicating gradually formed changes of opinions, and awakening us to the necessity of accepting new contrivances and discarding some old ones; and while it was bringing up the drawn super foundation on the one side who will say it is not carrying down into desuetude, or consigning to limbo, the use, or at least, the too lavish use, of ordinary brood foundation on the other—carrying up to us the conviction that, with low prices for our product, foundation is by no means so indispensable as we have hitherto somewhat apathetically allowed ourselves to believe it to be, and that it is a wasteful luxury in which we have been indulging more in the past than we can any longer afford to do?

I have been harping a good deal on the phrase "practical American bee-keepers." Ere this is in print some months will have elapst since Mr. Dadant was commissioned by you, Mr. Editor, to contest my statement that the worth to the honey-producer of foundation is somewhat overestimated, and the majority of your readers will by that time probably have lost recollection of the discussion's details. I will, therefore, recall one remark of Mr. Dadant, viz.: that "the average American is about as practical a man as can be found on the face of the earth." This was supplementary to his claim for the economic value of foundation on the score that "the American bee-keeper" who purchases enormous quantities of it "does not foolishly throw his money away." Altho the expression does not verbally claim for the American a greater measure of practicalness than for the members of any other nationality, it nevertheless implies that, for practicalness, the citizen of every other country may take a back seat. Now, as a cosmopolitan, whose life has been spent in many climes, and among many peoples, including England, Germany, France, Australia, India and the Cape, I have had ample opportunity of convincing myself of the correctness of Paddy's assertion, that "One man's as good as another, if not, indeed, much better."

I should be very loath to say anything that might be calculated to give the very leastest offense to Americans, or, for the matter of that, to any other man, for I like to get along pleasantly with every one; moreover, many of my nearest and dearest relations are citizens of the Great Union, whose institutions and people I greatly admire; but I can not help telling Mr. Dadant that I have frequently heard in connection with our pursuit, such remarks as the following, viz.:

"Those Yankees, with all their claim for cuteness and smartness, do take an amazingly long time to realize the value or the uselessness of a thing or to know when they are on the right or on the wrong track. They are slow in adopting a really good thing, and equally so in discarding a useless one, and seem to get taken in about as easily and as often as the denizens of most other lands."

"Yes," says another, "to read the American Bee Journal one would think that the bee-escapes were quite a new invention. There seems still to be a great difference of opinion as to their merits, or as to whether they have any at all; yet Simmins says they were used and discarded in England, under the name of 'super clearer,' 20 years or more ago. There are positively some leaders in the industry, too, men who used to answer the Question-Box queries, who have not yet been able to convince themselves that separators are necessary for the production of first-class comb honey." "And here's Ernest Root," says a third, reading from Gleanings in Bee-Culture, "who made a great fuss and hubbub over his fancied new notion of end-staples in the top-bar, and yet I see here are two Johnnies who rise up and say they've been using 'em any time for the last 10 years! They do move terribly slow, do those 'smart Yanks;' but once earn the name of being an early riser, you know, and you may sleep till mid-day."

"Yes," says another, "Ernest Root is getting, I see, to be quite an inventive genius in his way; and he has found out at last, and is cackling over his discovery like a hen that has just laid its first egg—that narrow sections, used with cleated separators, need no openings or scallops—the way Jimmy Topham has been using 'em for years, by planing down his 2-inch sections, you know (the only size you can get from those wretched English supply men). It is a mystery to me that the plan was not long ago conceived and adopted by that smart, practical bee-keeper, Mr. B. Taylor, who first gave us the idea of the cleated separator."

"Again," chips in another, "look at their score or two of complicated, fussy, bee-irritating feeding-devices—especially Golden's; and compare any one of them with your own simple device, Mr. Deacon, of the drawer under the flight-board, why——." But I didn't hear any more, for modesty compelled me to leave the room. Anyhow, I don't think that the average American is one jot more practical than is the average Englishman, or the average German, or the average Frenchman. Nor, I am sure, will any intelligent American put forth such a boastful claim. There are practical and non-practical, wise and foolish, good and bad, pretty and ugly, nice and nasty, men and women among all nations.

I hope I have given no offense; if I thought I should be doing so I would rather have left the above sentences in the ink-pot. And, now, as the said ink-pot is about dried up, I must perforce dry up, too, and conclude with the opinion that the time is near at hand when economic management will open bee-keepers' eyes, first, to the necessity, and, secondly, to the positive advantage, of using very much less foundation than they at present use. South Africa.

Care of Honey—Seasonable Suggestions.

BY MORLEY PETTIT.

EVERY one aims, or should aim, at excellence in whatever he or she undertakes. The adage, "There is always room at the top," is true in every trade and profession. To this rule apiculture is no exception, and those devoted to the production of honey will excel by supplying the very best comb and extracted on the market. Extracted honey is judged by color, flavor, and specific gravity, or "thickness." In saying "color," we might say *lack* of color or transparency. This may be maintained by carefully excluding all darker varieties from the white. The other two qualities are secured by leaving it with the bees as long as possible or convenient. Some of our best men do not extract until the close of the honey-flow. By this, however, basswood and clover are not separated, and in opening hives after the close of the honey-flow, there is danger to the inexperienced of robbing.

As soon as possible after extracting put up the honey in the packages in which it is to be sold, leaving it exposed to the air as little as possible. Not that it will "work" or spoil, but it has great affinity for water, and the exposed surface soon becomes quite thin from contact with atmospheric moisture. Then, if left in a deep tin, holding, say 400 or 500 pounds, the thicker portions sink and the thinner rise until it becomes graded from very thick at the bottom to quite thin on top, and is difficult to secure a uniform sample without a great deal of stirring. Stirring, again, hastens candying, and candied honey, altogether quite as good as, and by many preferred to, the liquid article, will not pour, and is much more difficult to dip into vessels for sale.

There is even yet some doubt among the uninitiated about the question of candied honey, many regarding it with suspicion. Impress upon all buyers the fact that candying, or becoming white and solid similar to lard, in cool or changeable weather, is a proof of purity, altho *in rare cases* the best extracted honey, in its natural state, does not candy even under these conditions. To reliquefy, set the can on wooden blocks in water over a slow fire. Remember that honey that has been slightly overheated has a burnt taste, is darkened in color, and will not candy again. On the other hand, if the granules are not all melted it candies again very soon. This suggests a point, in the case of extracting-combs, bearing on the subject. Before they are stored for winter have them thoroly cleaned by the bees, so there may be no adhering honey to granulate and set the next season's honey candying early.

For the very reason that all honey becomes hard in cold weather, the best package for retailing is one having a wide, open top, to allow the honey to be dug out, and that may be heated in water if it is to be liquefied. Glass makes a very attractive package, as it shows up the transparency of the contents to good advantage. Altho not quite the handsomest shapes, fruit sealers are the best sellers, as every housekeeper has use for them when empty. Less expensive and more convenient vessels are tin pails of 3-pound, 5-pound, and 10-pound capacity. They may be secured with slip covers for the home market, or self-sealing covers for shipment. The most popular package for shipping large quantities is the 60-pound tin, crated singly. It is about the right weight for one man to handle, and being square, does not waste space. Have a supply of labels which are distinctly your own, and not like those of everybody else, and put them like a trade-mark on every package of first-class honey. Do not injure your reputation by selling dark honey with your label on it, for many will not understand that it is not your best.

With comb honey, carefully scrape all wax or stain from the sections, leaving the wood smooth and white. Grade the sections into two or three classes, according to whiteness of capping and honey, and extent to which the sections are filled and capt. Do not spoil the market with poorly-filled or uncapt sections, but extract them and give to the bees next season. They will be filled much more quickly than sections containing foundation. Very neat and attractive show-cases of whitewood with glass front may be obtained from dealers in bee-keepers' supplies.

Now, as to the best way of disposing of honey, I would say do not be in a hurry to sell at a low figure. Stimulate the home market in every way. Supply your grocers and get them to work up a good trade among their customers. Many never buy honey because it is not brought before their notice. Invite any friends who call to sample your honey, and get them to bring their neighbors and buy. After you have sold all you can at home, sell to those whose business it is to find larger markets elsewhere.—Farmer's Advocate (Canada).

Relationship of Bee-Life to Agriculture.

BY F. GREINER.

I WILL give in the following a synopsis of an address delivered before the Australasian Association for the Advancement of Science, by Prof. Albert Gale, on the subject of "Color of Flowers, and Its Influence on Bee-Life." As far as practical and advisable I will give the Professor's own words. Some things may not be new to the readers, but it will help to show them the state of affairs over there:

"As I proceed I think I shall be able to show that bee-life and blossoms are so closely associated that, to interfere injuriously with either will at the same time injure both. Animal life can not exist without the vegetable kingdom. Some forms of vegetable life *can* exist without the presence or animal life, but others would cease to exist without the presence of some forms of insect life. Nearly all insects aid more or less in fertilizing the vegetable kingdom.

"Pollen is the fertilizing and vitalizing agent in reproducing all classes of vegetables. It is produced in abundance by all flowering plants, both by those of conspicuous and inconspicuous blossoms. *As a rule, inconspicuous flowers are wind-lovers, and those of more gaudy tints are insect-lovers.* It may not be generally understood that there are male and female elements in the vegetable organism just as in the animal organism. Agriculturists and those engaged in vegetable culture do not as a rule know that plants are reproduced on precisely similar lines as animals. Not one out of a thousand has sufficient knowledge of his occupation to understand that there exists a sexuality in plants, and that fertilization is as necessary in plants as in animals. The one great aim of all vegetable and animal life is to reproduce its species. Both sexes in all the higher orders of animal life possess locomotive powers to enable them to come together for procreative purposes. Locomotive powers in plant-life are very rare.

"The higher orders of animals are uni-sexual; occasionally there are malformations termed hermaphrodites; but in the plant world the higher orders are uni-sexual, bi-sexual, or hermaphrodites—uni-sexual when the male and female organs are on separate plants; bi-sexual when male and female organs are in separate flowers, but on the same plant; hermaphrodite when the procreative organs are both on the same blossom. Yet, nevertheles, *no true flower is hermaphrodite*. To make it clearer, the receptive and distributive organs do not mature at one and the same time in the same flower. From this it will be seen how utterly impossible it is in the great majority of cases for the anther to fertilize its associated stigma.

"In nearly every case the pollen of insect-loving plants is not dry and powdery, as in the case of wind-loving flowers, but is heavy and adhesive. Its adhesive nature prevents it from being blown about by winds, and it becomes necessary for an outside agent to transmit it from the male to the female organs."

Now comes the question, Are bees attracted to blossoms by their color? and are certain bright colors—red, blue, purple, etc., more attractive to them than paler tints, such as white-yellow? This my experience most certainly contradicts, altho it has so been stated by high authority. I quote from Sir John Lubbock's work on "Bees, Ants, and Wasps:"

"I brought a bee to some honey which I placed on blue paper, and about three feet from it I placed a similar quantity of honey on orange paper."

Why he needed to place a similar quantity I can not tell; and why he should have *brought* a bee instead of allowing one to find it, is a problem I can not solve.

"The question now is, 'Was the bee attracted by the color of the paper or by the honey?' Last summer in my garden I had a scarlet dahlia in bloom. When it first flowered there was not a stamen present. No bees ever visited it" [to the Professor's knowledge]. "The plant was afterward neglected by me, and this neglect caused the stamens to appear and the pollen to mature. With this change in the flower it soon became a foraging-ground for the bees. Why did they not visit the early blooms? Because there was no bee-food present. Why did they visit it after the stamens appeared? The flowers were not nearly so conspicuous as the earlier bloom. But in passing over they saw there was a reward for their labor. Early last spring the white arum lily was in bloom, and its white pollen was eagerly sought for by the bees. At the same time the broad beans were in full flower. These, too, were an attractive foraging-ground for the same insects. A little later the peach-tree burst into flower, with the result that the first named was entirely forsaken, and the latter receiving only an occasional visit. Did the bees go to the peach-blossoms on account of their attractive colors? Not a bit of it. While the peach-trees were in flower the willows were just showing their catkins. During the bloom of peach and willow my bees were bringing pollen of the two colors only—creamy-white and orange tint. At the same time were roses, marigolds, arum lilies, and other attractive flowers in bloom, but few bees visited them. The pollen was coming from the peach and the willows. The catkins of the willows are so inconspicuous that a large number of people are ignorant of the fact that they are blossoms; yet they were as attractive to the bees as the gaudy peach.

"During the same spring I visited the botanical gardens. There were then beds of English daisies, pansies, anemones, and the turban ranunculus, in full bloom. Nothing in the garden was more showy than the two latter, yet not a bee visited them. Near these was a shrub (*Buxus sempervirens*) in which there was a constant hum of bees. What was the cause? Hidden among the dark-green foliage were hundreds of small greenish flowers supplying abundance of food. If color had been the attractive agent, bees would never have discovered their food in the shrub, but would have sought the showy beds of anemones, etc., in vain; they were double, and therefore there was no bee-food. A short time afterward I saw the bougainvilleas aglow with their showy bracts. They could be seen hundreds of yards away. At the same time the pittosporums were in flower, which were most inconspicuous. In the former there were no bees to be seen, notwithstanding their fiery glow, whilst in the latter there was a sound as tho a swarm of bees had taken possession of it. Watch a large bed of poppies of mixt colors. No one color is neglected by the bees. Poppies are great pollen-producers."

* * * * * * * *

"Darwin tells us that it took ages on the other side of the world for flowers to develop, and the bees centuries to adapt themselves to the flowers. The chief honey-yielding plants of this continent are the eucalyptus, pittosporum, and tea-tree families. All these bear whitish flowers. Our introduced fruit-trees and ornamental flowering plants bear brightly colored blooms. In springtime our introduced fruit-trees are conspicuous by the multiplicity of their flowers, and our little native bees as readily find the nectar in them as our introduced bees, and they can not have had ages of experience to guide them. And does it not seem very strange that our hive-bees, upon their introduction here, should have forsaken the bright-colored flowers of the old land that were introduced here at the same time they were? The hive-bee, on its arrival here, after having been educated to the high standard it is said to have attained in the Old World, works upon, not our introduced flowers, red, blue, purple, so much as upon our simple white and yellow ones, so unlike what they ought to have done according to the education they received at our antipodes. Is it not queer that our bees should have gone back in their tastes for color when they crost over the equatorial line and came to this side of the world?"

With due impartiality I have in the foregoing now made the reader acquainted with the essentials of Prof. Gale's observations and conclusions. I can not deny myself the privilege of making some comments, and also to post the reader on what others have done in a similar line, so he may be in a position to judge for himself. Of course, we are agreed that the honey-bee plays a very important part in agriculture, and I am glad the Professor holds this view. In regard to the question, "Are certain colors more sympathetic to bees?" opinions differ. All the observations Prof. G. cites fail to prove that color does not attract bees. He seems to labor under the impression that others had so misconceived the nature of our industrious little friends as to think they would ever stand around admiring the beauty of the flowers. I can assure the Professor we *all* have a better conception of the business qualification of our bee. We are well satisfied they do not visit ever so gaudy flowers if those flowers have nothing to offer. To find out whether a certain color is more attractive to the bee than another we must allow the bee to choose between the colors, *and we must adjust all other conditions so as to be exactly alike.* If one blossom, inconspicuous as it may be, hides in the depths of its corolla delicious nectar, that blossom will be visited by the bees. A highly colored flower, but yielding neither pollen nor honey, will receive no attention from bees. What reasonable person would expect anything else?

The bee has two sets of eyes, one set calculated for long range, the other for short distance. It can, therefore, see. Its antennæ are excellent olfactory organs, and it can probably scent nectar in flowers for a longer or shorter distance. I judge that it does not require much time for a bee to ascertain whether a blossom, even a strange flower, is worth visiting or not.

Dr. Herm. Muller, of Germany, conducted a long series of experiments some 15 years ago, which seem to show that gaudy colors are not preferred by the bee. Light-yellow, white, light-blue, violet, rose, purple, bright-yellow, fiery red—that seems to be the order of their choice. Dr. M. took different colored plates upon which he placed food, and then he noted the behavior of the bees, spending a great deal of time. Generally but two colors were submitted to choose from. The result was as stated.

An observation he made, which is not exactly in line with our subject, "Influence of color," etc., I will make mention of here, as it is very interesting:

Watching a single bee he found it would get its fill of honey in 2½ minutes. In 3½ minutes it had made the home trip, had unloaded and returned. On the whole, it made 70 trips in seven hours. All bees observed were markt with oil color on the thorax; every other bee a different color. Thus he was enabled to distinguish between the different bees, and to note their individual behavior to the colors and otherwise. The different bees behaved differently in many ways. Finally an average was taken. In this way the conclusions arrived at had some foundation. It would have led too far to give these experiments in detail, and for that reason I have only briefly mentioned them. It will seem to me they prove more than Prof. Gale's observations.

Color exercises a pleasurable observation upon the human eye, and why not upon the eye of the bee? Prof. G. says, in the beginning of his address, "As a rule, inconspicuous flowers are wind-lovers, and those of gaudy tints are insect-lovers." It would be reasonable to suppose that the color was given these latter flowers so as to attract the bees and insects. Of course, that does not yet prove that one color may have more attraction than another. I leave the reader to draw his conclusion.—Gleanings in Bee-Culture.

Ontario Co., N. Y.

THE AFTERTHOUGHT

The "Old Reliable" seen thru New and Unreliable Glasses.

By E. E. HASTY, Richards, Ohio.

IMPORTANCE OF AN EARLY FORCE OF FIELD-BEES.

Naturally I feel interested in the further report of B. J. Chrysostom, page 412. The teaching seems to be that a tremendous force of field-bees in a colony will get surplus any time of year when the weather is good. Many of us failed to find this out—perhaps mainly because we never had that force of field-bees except in what we called "the season."

HIVING SWARMS ON FULL COMBS OF HONEY.

F. Greiner (page 414) speaks of hiving a swarm on solid combs of honey as if it were good practice. Without positive knowledge as to how it would work, I nevertheless should consider it quite risky, especially in a heavy honey-flow. A swarm wants elbow-room, and a chance to build lots of comb, and rear lots of young brood, all of which would be cut off by solid combs of honey. It is also unsafe to hive a swarm on any honey at all *in famine times*. Put in the honey at nightfall, and then they have time before morn to get over the disposition to fill up and "light out" immediately.

CARE IN HAVING OTHER ANIMALS AROUND BEES.

L. G. Blair, page 430, gives us one of the most instructive talks we have ever had about bees stinging animals. It's rather singular how many people incline to drive right into the midst of swarming bees. A little of the John Bullish assertion of "my rights," I fear. If so, the punishment looks rather over-sized for the crime. It doesn't always pay to claim all our rights—either from bees or Boers. That was a curious circumstance that the tips of the horses' ears came off. Probably stings were very numerous on the ears.

Don't tie an animal and go off and leave it anywhere near bees. Bees come in reach, animal snuffs and thrashes at it. Bee gets dander up, dashes back to the hive, and with excited noise and tearing around induces two or three more to follow it in an attack on the beast. All divide their time between the beast and the hive—worrying the beast awhile and drumming for recruits awhile. Naturally after the first few dozen have enlisted, the thing grows with startling rapidity—until nearly every idle old bee about the hive is out and singing, "Hurrah for the sound of a cannon!" Were the beast loose it would generally stop this cumulative process at an early stage by running away. Comparatively few, even of bee-men, seem to comprehend just *how* bees get into a distant scrimmage in such great numbers. I specially commend the above to their attention, hoping it may lead to more care in hitching horses.

YELLOW SWEET CLOVER.

Yellow sweet clover—what a pity it didn't come before the white instead of afterward! The public will now say, All sweet clover coons look alike to us. I am not familiar with the yellow variety, but my idea is that, on account of its smaller size, it does not block up territory so nobody can pass. I judge also from what I hear that it is less self-assertive in forcing itself in (except perhaps in wet soils), and that is an improvement, from the public's point of view. That it is four weeks earlier than the white variety, and quits off before the season is over, are points I had not in mind previously. Likely both kinds are more or less progressive in adapting themselves to locations. This year I find the white kind more troublesome as a weed in the garden than heretofore. Page 417.

THOSE ARTICLES ON ROBBING.

Mr. Doolittle's robbing article, page 418, may profitably be read after Mr. Davenport's on page 405, and between the two the reader will get things about right—and be cured of any incipient itch to go and scatter coals over his straw-stack, which he may have contracted from the former article.

DUMMY SWARM-CATCHERS.

To have nothing near by on which a swarm could alight except dummy bushes set up in holes in the ground—why, that might almost be called the poetry of taking swarms. But that is a poetry which most of us who are on old homesteads can not indulge in. The work of renovating the dummies as often as they get dry would be tedious. Say, Mr. Hobbs, set your dummies in tubs of rich earth, and make some morning-glory vines green them up for you. With a year or two to grow in, I judge that a young maple or willow a dozen feet high, but cut back to six feet, and transferred to a tub, would make a nice, portable, prairie swarm-catcher. Page 419.

York's Honey Calendar for 1900 is a 16-page pamphlet especially gotten up to create a demand for honey among should-be consumers. The forepart was written by Dr. C. C. Miller, and is devoted to general information concerning honey. The latter part consists of recipes for use in cooking and as a medicine. It will be found to be a very effective helper in working up a home market for honey. We furnish them, postpaid, at these prices: A sample free; 25 copies for 30 cents; 50 for 50 cents; 100 for 90 cents; 250 for $2.00; 500 for $3.50. For 25 cents extra we will print your name and address on the front page, when ordering 100 or more copies at these prices.

◆

Belgian Hare Breeding is the title of a pamphlet just publisht, containing 10 chapters on "Breeding the Belgian Hare." Price, 25 cents, postpaid. It covers the subjects of Breeding, Feeding, Houses and Hutches, Diseases, Methods of Serving for the Table, etc. It is a practical and helpful treatise for the amateur breeder. (See Prof. Cook's article on page 292.) For sale at the office of the American Bee Journal. For $1.10 we will send the Bee Journal for a year and the 32-page pamphlet on "Belgian Hare Breeding."

◆

"The Hum of the Bees in the Apple-Tree Bloom" is the name of the finest bee-keeper's song—words by Hon. Eugene Secor and music by Dr. C. C. Miller. This is thought by some to be the best bee-song yet written by Mr. Secor and Dr. Miller. It is, indeed, a "hummer." We can furnish a single copy of it postpaid, for 10 cents, or 3 copies for 25 cents. Or, we will mail a half-dozen copies of it for sending us *one new* yearly subscription to the American Bee Journal at $1.00.

◆

Queenie Jeanette is the title of a pretty song in sheet music size, written by J. C. Wallenmeyer, a musical bee-keeper. The regular price is 40 cents, but to close out the copies we have left, we will mail them at 20 cents each, as long as they last. Better order at once. if you want a copy of this song.

AMERICAN
ESTABLISHT IN 1861 OLDEST BEE-PAPER IN AMERICA
BEE JOURNAL.
DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS

PUBLISHT WEEKLY BY
GEORGE W. YORK & COMPANY,
118 Michigan Street, Chicago, Ill.

[Entered at the Post-Office at Chicago as Second-Class Mail-Matter.]

DEPARTMENT EDITORS:

DR. C. C. MILLER, "Questions and Answers." * * E. E. HASTY, "The Afterthought."

LEADING CONTRIBUTORS:

G. M. DOOLITTLE, F. A. SNELL, C. P. DADANT, R. C. AIKIN, PROF. A. J. COOK, "OLD GRIMES."

IMPORTANT NOTICES:

The Subscription Price of this journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "Dec00" on your label shows that it is paid to the end of December, 1900.

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Advertising Rates will be given upon application.

VOL. 40. AUGUST 23, 1900. NO. 34.

EDITORIAL COMMENTS

NOTE—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

Honey Season of 1900.—There seems to be quite a difference of opinion concerning the honey crop of this year. However, Editor Root sums up the situation pretty well in the following sentence, found in Gleanings in Bee-Culture for Aug. 1st:

> "Taking it all in all, the season is no better than last year, which was considered poor, altho there have been special favored localities where quite large crops of honey have been secured."

If such is really the case, prices of honey of all grades should certainly be no lower this year than last, and possibly in some localities somewhat higher.

Minimizing Swarming, next to the prevention of swarming, is a topic the very mention of which makes the average bee-keeper prick up his ears. One of the things that has prevented greater advance in this direction has been a stolid indifference on the part of many, arising from the belief that nothing could be done, and that bees would swarm just about so much anyhow. To those who are a little faint-hearted in the matter, and yet are trying to keep up their hope, the following extract from a paper by H. L. Jones in the Australasian Bee-Keeper is reassuring:

> "With a strong desire on my part for rapid increase, my apiary grew from four colonies in 1883 to over 100 in 1886, aided much by favorable seasons and artificial swarming, but a complete change in my management soon became imperative, as at the rate things were going the prevention of swarming promist to become a serious problem. For a few years it was almost impossible to keep the bees within reasonable bounds once they got the swarming-fever, and as many as half a dozen swarms in the air at once was of frequent occurrence. In time, however, the percentage of swarms gradually grew less, so that to-day it does not average above 5 percent.
>
> "This satisfactory state of things is due to several improvements in our fixtures and methods of management. Hives more perfectly ventilated with deep entrances and cool double-gable covers have superseded those modeled on foreign patterns and more adapted to cooler climates, while careful selection of breeding-stock from the most non-swarming strains has also had considerable influence in minimizing the desire to swarm. It speaks well for our present fixtures, too, that such unpleasant and expensive occurrences as combs melting down in the hives thru excessive heat are now unknown, but many a sad spectacle of broken-down combs and drowned bees reveals itself to my mind's eyes as I look back to those days of the old single-board flat cover and narrow entrance."

The three things specifically mentioned by Mr. Jones as being strong factors in diminishing the amount of swarming are: Deep-entrances, cool double-gable covers, and selection of breeding-stock from non-swarming strains. If attention to these points has so greatly reduced swarming in Australia, why not in this country?

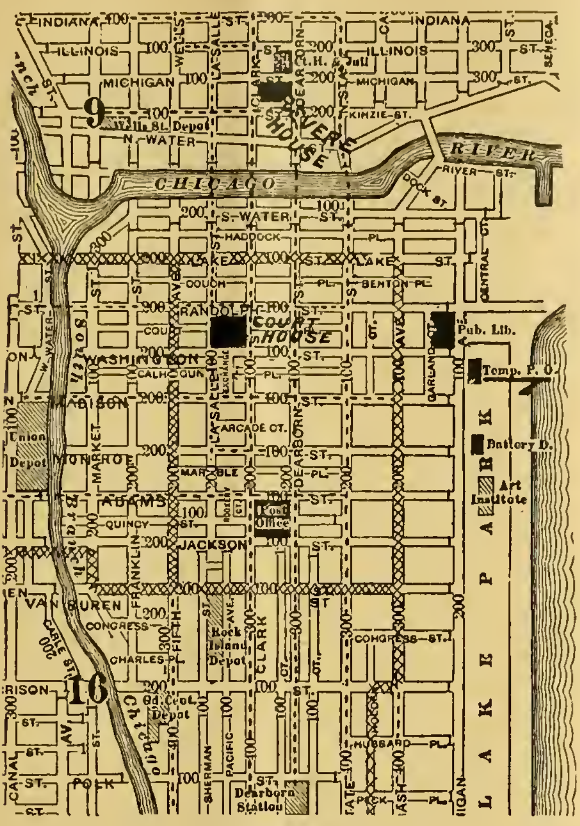
The Chicago Convention of the National Bee-Keepers' Association, as doubtless all know, will be held next week, beginning with Tuesday evening, Aug. 28th.

Referring to the Chicago convention, Editor Root, of Gleanings in Bee-Culture, had this to say in regard to some of the attractions:

> If there is any one feature that our bee-conventions have lackt in the last few years, it has been stereopticon work. It was introduced for the first time, if I am correct, in the history of the National, at Philadelphia, by W. E. Flower, and was a markt success. It was also a distinct and prominent feature at the New York State convention, held at Geneva last winter.
>
> For a long time I have been wishing for a first-class stereopticon, and have now finally purchast one using a powerful electric light of 3,000 candle power—one that the manufacturers tell me will give the very finest and best results. This will be in evidence at the Chicago convention on Wednesday and Thursday evenings. On the first evening there will be thrown on the screen some pictures of some of the prominent bee-keepers of the day; Dr. Miller will pay tribute to Langstroth, and Dr. Mason will come in for the jokes. The views will also embrace snap-shots from many apiaries of the United States, and even from old mother England. In connection there will be shown briefly the anatomy of the bee, special reference being given to the tongue, about which so much interest is now being manifested. The methods of measuring tongues will be illustrated, together with a view of the variations already discovered. Thursday evening, the last session, some of the beautiful photographs secured by Mr. Hutchinson, on his recent trip thru Minnesota and Wisconsin, will be thrown on the screen. These will be some of the finest pictures that were ever projected, and no one who can come should miss this treat. Of course, Mr. Hutchinson will tell us about them.

Revere House—Convention Headquarters.

> On both evenings will be shown views of the various hive-manufacturing plants of the United States. Every establishment, so far as I know, will be represented, or at least an effort will be made to secure photographs of each.
>
> A glance at the program will show that such men as Thomas Wm. Cowan, editor of the British Bee Journal, and perhaps the most distinguisht bee-keeper in all Europe, will



HOW TO REACH HOTEL.

Take State St. Car going North to Michigan St.
Take Dearborn St. Car going North to Kinzie & Clark Sts.
Take N. Clark St. Cable going North to Illinois & Clark.
Elevated Railroad Station, Clark & Lake Sts.
Street Car Lines designated------
Elevated Railroads◇◇◇◇◇◇◇◇◇◇◇◇◇◇

have a paper. There will be another paper from Dr. W. R. Howard, the scientist who has done more in the study of the diseases of bees than, perhaps, any other man in this country. R. C. Aikin, president of the Colorado State Bee-Keepers' Association, and one of the most practical bee-keepers of the world, will be present and discuss a live issue.

There are other equally good papers, but these are only samples of the good things that will be spread before the bee-keepers who will be fortunate enough to attend the convention in Chicago. The railroad rates will undoubtedly be very low, so it will be possible for many to make a very pleasant and enjoyable trip. After the convention there will be ample opportunity for any one who may desire to take in Lincoln Park, the old World's Fair grounds, and a hundred and one interesting things in the most hustling city of the United States—Chicago. Lincoln Park alone is worth the trip.

I nearly forgot to say that we will endeavor to have pictures taken of the members of the convention, probably during the first session. If our plans work well, this picture will be thrown on the screen Wednesday or Thursday evening; so if you wish to see "yersilf" as ithers see you, come and see "yersilf" projected on the screen.

The seven sessions of the convention will be held in Wellington Hall, located on the third floor at 70 North Clark street. This hall is just about two blocks north of the river, and about five blocks north of the Court House and City Hall. It will be very easily found.

The bee-keepers' headquarters and hotel will be at the Revere House, at the southeast corner of North Clark and Michigan streets—only a short half block south of Wellington Hall. Surely, the hall and hotel are near enough together to suit the most critical person that will be present.

The editor of the American Bee Journal expects to devote himself wholly to seeing that all are well taken care of, and that everything possible is done to make it the best bee-keepers' convention ever held on this continent. He will be assisted by members of the Chicago Bee-Keepers' Association, particularly Secretary Herman F. Moore and Vice-President Mrs. N. L. Stow, who are also on the Executive Committee of the Chicago Association.

The Weekly Budget

Dr. A. B. Mason, Secretary of the National Bee-Keepers' Association, writing us Aug. 15th, says:

"The railroad rate for G. A. R. week is one cent a mile each way on all railroads in Canada and the United States."

As the Chicago Convention is held the same week, bee-keepers will please take notice—and can also take advantage of the low railroad rate.

* * * * *

Mr. S. B. Strader, of Vermilion Co., Ill., writing us Aug. 6th, says that his shop and grist-mill was burned to the ground July 12th with everything in the building, including books, etc. The loss was about $1,500. We hope that Mr. Strader had everything insured, as it does not pay any business man to be without insurance on his buildings, stock, etc.

* * * * *

Dr. A. B. Mason was visited in July by a reporter from the Toledo Daily Blade, who afterward gave the Doctor and his bees nearly a two-column article. He must have been a reporter above the average, as he got everything pretty correct. The heading given the article was, "Honey-Bees and their Wonderful Talents." It was illustrated with a picture of the Doctor and the three kinds of bees found in a hive.

* * * * *

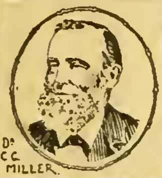
Mr. O. O. Poppleton, of Dade Co., Fla., writing us Aug. 4th, had this to say:

"Friend York:—It looks now like a pretty sure thing that I will be able to go to Chicago for the convention...... My crop this year is about 16,500 pounds of extracted honey from 115 colonies. As a rule, the season has been a poor one, but I happen to be among the fairly lucky ones."

We are twice glad—first, that Mr. Poppleton will quite certainly be at the convention; and, second, that he has been so fortunate as to secure a good crop of honey. If he comes to the convention we may be sure of at least one happy man among the number.

* * * * *

The Chicago Convention Attendance promises to be very representative in character. Among those whom we expect to be present may be mentioned these: R. C. Aikin and wife, of Colorado; W. Z. Hutchinson and wife, and Hon. Geo. E. Hilton and wife, of Michigan; O. O. Poppleton, of Florida; N. E. France and son, with Mr. and Mrs. W. J. Pickard and daughter, Miss Ada, all of Wisconsin; Rev. E. T. Abbott, of Missouri; L. A. Hammond, of Maryland; E. Kretchmer, of Iowa; and doubtless many others could be named if we could only recall them. Quite a number from a distance have written us that they are coming, if all is well. It will be a "big meetin'." Better pack up and "get there," if possible.



QUESTIONS AND ANSWERS.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

The "Premium Queens" Are Clipt.

A correspondent writes that he received his premium queen all right, but is puzzled to know whether the one in the hive now is the same queen, as this is a clipt queen, and the one he received as a premium had whole wings. Another says his queen is clipt, and wants to know if I did it.

At the request of the publishers, I have clipt the queens sent out. It would be a little less trouble to send them out with whole wings, but most nowadays prefer to have queens clipt, and it sometimes helps to decide the question whether the right queen is present. When a queen has her wings closely folded together, it is not so easy to tell she is clipt, but it is easily told when she spreads her wings, and that probably accounts for the correspondent thinking his queen was unclipt when received, and clipt when found later in the hive.

To another question, I reply that I have not previously sent out queens to exceed perhaps half a dozen, rearing them merely for my own use, and that I now send out only as ordered thru the publishers of the American Bee Journal.

C. C. MILLER.

Combs and Fixtures from a Paralytic Colony—Bees's Length of Life.

1. Would it be safe to use combs and fixtures taken from a colony that has bee-paralysis?

2. Do you think the life of the worker-bee is prolonged during a period of enforced idleness in summer, when there is no honey or very little coming in? MINNESOTA.

ANSWERS.—1. It is probably entirely safe.

2. Yes, a bee grows old not altogether according to the number of days since it was born, but rather according to the amount of work it has done.

Building Queen-Cells Over Drone-Eggs.

To-day I send a queen, some drone-brood in worker-cells, and a sample of queen-cells, cut from the same comb. I desire you to make a post-mortem examination of the same, and report at an early date in the "Old Reliable." I will give a history of the queen, viz.: In the first place I will say that I have the stands, or places where my colonies rest, numbered as we do land sections, and keep a regular diary of each colony. In this way I can give a correct history of the colony and queen therein. May 16th No. 7 was very good; clipt queen's wing, and gave two frames for new colony at No. 11. May 30th queen-cells started, nearly ready for capping. Made new colony at No. 15 by giving seven frames with cells for new colony, and filling up No. 7 with empty combs. I find this an easier way to hive swarms than to climb trees, or be bothered watching for swarms, and if the queen is not clipt the swarm may be lost.

June 9, No. 15, saw fine queen, colony good. June 21st, saw queen laying all right; put on upper story—8 frames in the upper story, and 10 in the brood-chamber. I use the standard Langstroth 10-frame hive, and upper story the same size. These I can make into an 8-frame or any other size, by the use of division-boards. June 27th, working in upper story. July 26, need attention, as I found one frame in the upper story that contained a lot of drone-brood in worker-comb, and queen-cells started. July 27th, removed upper story, found a fine, large queen, but seemed to have quit laying, as I found no brood in any stage from the egg up to capt brood in the brood-chamber. Queen seems to have been injured. Her last laying seems to have produced drones, as stated above. July 30th, gave upper story to No. 13; took away queen, so as to be ready for one that will lay.

Now, the query is, will bees start queen-cells over eggs that produce drones? I have fears of this, and send you a sample of them. I did not find any worker-cells at all in this comb that contains the drones. The queen, as you will see, is only a few weeks old. Most of my other colonies are doing well, especially in brood-rearing, and we hope to have a good honey harvest yet from heartsease and other fall flowers. Almost too much rain during basswood, white clover, etc., so our early honey crop is not large.

There is an immense growth of all kinds of vegetation and weeds, especially the latter, hence the reason why, if the weather proves favorable during August and early September, we may get a good crop of honey. All bee-keepers I have met report about the same.

I run my apiary mostly for extracted honey, as I find as a rule it pays best. The American Bee Journal is always a welcome visitor. J. S., Marshall Co., Iowa, July 31.

ANSWER.—It is a rather common thing for queens that are failing with old age to lay an increasing number of drone-eggs, until all the brood is drone-brood, but is an unusual thing for the queen no older than the one in question to fail in that way. Still, it does sometimes happen. I once had a queen which laid eggs that never hatcht at all. Another laid worker-eggs all right for three or four days, then stopt laying altogether.

When bees have nothing but drone-brood, you may count on their starting queen-cells, but nothing ever hatches out of such cells, the poor drone pampered with royal food dying in his cell.

Weak Colony.

I have a colony of bees which have been very poor the whole season. First they lost the old queen, then the other died, and the combs have had brood which has changed to maggots, as the queen died, and the colony is in very bad shape. I lookt it over every day and cut out the tracks left by the worms, and I could not get them out, so I have bought a new queen and have put a new colony on the old stand with some comb-starters in the frames, and left the old hive stand near by. Have I done the right thing with the bees, by changing the hive? What can I do in regard to the comb of the old hive? BROOKLYN.

ANSWER.—Furnishing a queen was a wise move—doubtful about changing combs. Fumigate the old combs with sulfur to kill the worms, and then if the bees are strong enough return the combs. The great danger is that the colony has become so weakened as to be worthless. When a colony has been a long time without a queen and has dwindled away, it is hardly worth fussing with.

Variations in Brood-Frames.

I wish that some of the manufacturers of bee-keepers' supplies would be on the program in the bee-keepers' convention, and discuss the sameness of the inside of bee-hives. I have been buying 1,000 brood-frames here, of different makes; some go in the hives while others do not, or vary up to about ½ inch. Such goods are no better to me than a common box, or even that. CALIFORNIA.

ANSWER.—The trouble you mention is a grievous one. In the main, manufacturers are not the chief sinners in this regard. They try to make what bee-keepers demand. A good way to do is to stipulate when ordering goods that they shall be of certain dimensions. It does seem, however, that a frame varying ½ inch from the standard size, 17⅝x 9⅛, if that is what you have, must have been made by a mistake of the manufacturer, and should be rectified by him.

ROOT COMPANY'S PAGE.

SHIPPING-CASES.

Our No-Drip Cases are still in the lead. We keep constantly on hand a large assortment from 12-pound size up. We also make special sizes to order.

That Root's Cases are in demand is shown by the fact that one dealer alone has ordered 16,000 this season.

WINTER-CASES.

Our Winter-Cases are made of thin lumber dovetailed at the corners, with a telescope cover.

The cost is only 75 cents each singly, yet for convenience they are unsurpast, and only excelled by the chaff hive in the protection afforded. Don't let your bees winter-kill or spring-dwindle when you can avoid it by using our Winter-Cases.

RUBBER GLOVES.

This is the time of the year when you need gloves, for robbers are about the bees and they are harder to handle than earlier. Take comfort with a pair of our gloves.

Ladies' sizes, Nos. 6, 7, 8 and 9, $1.35;	postage,	5c
Gents' sizes, Nos. 10, 11 and 12, $1.45;	"	5c
Extra long driving, Nos. 13, 14, $1.70;	"	10c

Mark size of hand on sheet of paper when ordering. If you order by number, remember that in rubber you need two sizes larger than you wear in kid; i.e., if you wear No. 6 in kid you will need No. 8 rubber.

BICYCLES

In trade for honey at market prices.

Having sold a carload of bicycle crates, we took in trade a quantity of machines which, so long as they last, we will sell **AT COST.**

A $30.00 bicycle—"Pathfinder"—made by the National American Cycle Company, Akron, O., for $17.00 cash or $20.00 in trade for honey of good quality at market prices. Catalog and further particulars will be sent on application. Send a sample of your honey and we will give you price we will allow.

COMB FOUNDATION.

Not too late yet to order Comb Foundation for the fall flow. If you order Root's Weed Process you may be sure you will be pleased with the result. We keep in stock the four grades in boxes of 1, 2, 3, 5, 10 or 25 pounds.

☞ A small order has the same attention as an order for a ton.

SPECIAL GOODS.

This is the time when you should order odd size or special goods. Our busy season is over and we can do almost any work in wood you want, either for bee-keepers or others.

We make a specialty of packing-boxes, from the size of a section-box up. Let us figure with you.

FEEDERS.

How about your winter stores? Are you sure your bees have enough? Should it be necessary to feed you can't do it easier than with our Division-Board Feeder. This is made to hang like a frame in a Langstroth hive. Price, 20 cents each, complete. Less in quantities.

Honey-Labels.

Do you use labels for your honey? Are they really ATTRACTIVE labels? If you do not you may be losing many sales because your honey lacks attractiveness. You can't expect to market your honey at the best price unless you use every care in putting it up. Send for our label catalog and see our 1, 2, and 3 color labels.

Tin Packages for Honey.

If you are one of the people who market extracted honey in small lots you will find our pails just what you want. A dozen sizes and kinds to select from. We also furnish square cans—1-quart, 2-quart; 1-gallon and 5-gallons. A single can or carload, as you wish. Write for prices.

Gleanings in Bee-Culture.

When our advertisers write us that their advertisements have paid them well, we know GLEANINGS IN BEE-CULTURE must be read by the best bee-keepers. We know, too, that GLEANINGS is appreciated, for our circulation is increasing all the time. Send 25c for a six months' trial and get A. I. R's Notes of Travel and hundreds of other interesting things.

Comb-Foundation Mills.

Perhaps you are so far from us and rates are so high that you want to make your own foundation.

Our mills are being improved constantly. If you want to purchase a foundation mill, send for package of samples showing different styles we can furnish. Send 2c stamp for these.

Bushel Boxes.

Bee-keepers are always looking for labor-saving ideas. Have you ever read our 16-page pamphlet, "Handling Farm Produce?" It is full of information and gives prices of bushel boxes and other things. Free for the asking.

HONEY-EXTRACTORS.

"Operator No. 6 puts the honey-combs in the extractors, which is a Cowan 4-frame reversible, with ball-bearings and lever-brake — in short, the best extractor on the market."

Extract from article of N. E. France, of Wisconsin, in June Review. No one is better qualified to judge the worth of an extractor than Mr. France. He says the ROOT COWAN IS THE BEST.

Thousands of others say so.

Glass Honey-Packages.

We have all sizes of Mason Jars with aluminum or porcelain-lined caps. Also Jelly Tumblers, two sizes; Glass Pails, four sizes; and Self-Sealing Jam Jars. Besides these we still have the four sizes square jars, which have long been on the market. Don't forget us when you need glass packages for honey.

RUBBER STAMPS.

Have you ever thought how handy it would be to use a rubber stamp to mark your honey-cases, showing the grade? Then, too, if you sell in the home market you ought to have your name on the case so it would be returned. We make stamps of all kinds for all sorts of purposes. Let us send you our rubber stamp circular.

QUEENS.

We don't say much about our queens, do we? I suppose some of our friends wonder why. Let us tell you: We began selling queens many years ago. We know all about the business from A to Z. We have the best breeding queens to be found in this country or Italy, and the best apiarist to be had. The result is our 400 colonies do not begin to furnish enough queens for our orders. Our queens are **unsurpast.**

You will find it so if you buy them.

HONEY.

We buy a number of carloads of comb and extracted honey each year. If you have secured a good crop send us your offer. You don't have to worry about the returns if you sell to us.

If you have extracted honey send sample. If you have failed to secure enough for your home market, let us supply you. We have honey engaged all over the country, and can ship direct from the producer, many times.

AGENCIES.

A list of our principal agencies will be mailed you on request. We can ship from stock such items as our regular Hives, Sections, Foundation, Extractors, etc., from these agencies.

Send your order direct to us, if you prefer, and request that we ship from nearest point, and we will do so, saving you freight charges and giving you quick delivery.

THE A. I. ROOT COMPANY, Medina, Ohio.

The Bee-Keeper's Guide

Or, Manual of the Apiary,

—BY—

PROF. A. J. COOK.

460 Pages—16th (1899) Edition—18th Thousand—$1.25 postpaid.

A description of the book here is quite unnecessary—it is simply the most complete scientific and practical bee-book publisht to-day. Fully illustrated, and all written in the most fascinating style. The author is also too well-known to the whole bee-world to require any introduction. No bee-keeper is fully equipt, or his library complete, without THE BEE-KEEPERS' GUIDE.

This 16th and latest edition of Prof. Cook's magnificent book of 460 pages, in neat and substantial cloth binding, we propose to GIVE AWAY to our present subscribers, for the work of getting NEW subscribers for the American Bee Journal.

Given for TWO New Subscribers.

The following offer is made to PRESENT subscribers only, and no premium is also given to the two NEW subscribers—simply the Bee Journal for one year:

Send us TWO NEW SUBSCRIBERS to the Bee Journal (with $2.00), and we will mail you a copy of Prof. Cook's book FREE as a premium. Prof. Cook's book alone sent for $1.25, or we club it with the Bee Journal for a year—both for only $1.75. But surely anybody can get only TWO NEW SUBSCRIBERS to the Bee Journal for a year, and thus get the book as a premium. Let every body try for it. Will YOU have one?

GEORGE W. YORK & CO.,
118 Michigan Street, CHICAGO, ILL.

BY RETURN MAIL.

Golden Beauty Italian Queens,
Reared from imported mothers.

Untested, 50 cts.; 12 Untested, $5.50; Tested, $1.
J. S. TERRAL & CO., Lampasas, Texas.
18Atf Please mention the Bee Journal.

GENERAL ITEMS

Good Prospects for a Fall Crop.

Our bees are not doing anything to speak of at present, but I think the prospects are good for a fall honey crop. ARTHUR STANLEY.

Lee Co., Ill., Aug. 4.

Bees Doing Fairly Well.

My bees are doing fairly well—better than some of the others around here. I have one colony that has filled four supers, which was started July 5th. W. BISHOP.

Otero Co., Colo., Aug. 1.

A Financial Report.

I have sold $180 worth of extracted honey from 40 colonies. W. E. YOUNG.

Ontario, Canada, Aug. 10.

Bees Did More Than Poor.

Bees have done more than poor this year. My 40 colonies, spring count, have produced only 300 or 400 pounds of white honey. S. A. MATSON.

Nodaway Co., Mo., Aug. 10.

Honey a Light Crop.

Honey is a light crop, but very nice. The flow is over for the present, tho there may be a fall flow. One neighbor one-fourth of a mile from me, informs me he has taken one 13-ounce section of honey from 50 colonies this season. He is keeping bees according

Sharples Cream Separators: Profitable Dairying

DR. PEIRO,
34 Central Music Hall, CHICAGO.

Please mention Bee Journal when writing.

The Mississippi Valley Democrat
—AND—
Journal of Agriculture,
ST. LOUIS MO.

A wide-awake, practical Western paper for wide-awake, practical Western farmers, stock-raisers, poultry people and fruit-growers, to learn the science of breeding, feeding and management. Special departments for horses, cattle, hogs, sheep, poultry and dairy. No farmer can afford to do without it.

It stands for American farmers and producers. It is the leading exponent of agriculture as a business, and at the same time the champion of the Agricultural States and the producer in politics. **Subscription, One Dollar a Year.**

☞ **Write for Sample Copy**

Golden Italian Queens.

By return mail, 75 cents each; $7.50 per dozen. They pleased every customer this year; well, why not? They are the prettiest, gentlest and best hustlers you ever saw.

—Muth's—

Square Glass Honey-Jars.

Just the package for home trade. Full line of ROOT'S GOODS at their prices.

HONEY.

Have you any FANCY WHITE comb or extracted honey for sale? Also beeswax wanted.

C. H. W. WEBER,
2146 Central Ave., Cincinnati, Ohio.

BEES FOR SALE

Full colonies of good stock shipt in 8-frame hive, complete, $4.00; in 10-frame hive, $4.50.
B. A. ALDRICH, Smithland, Woodbury Co., Iowa
33A2t Please mention the Bee Journal.

ARE YOU FULL OF GINGER? If you want health and vigor, good appetite and sound sleep, take **LAXATIVE NERVO-VITAL TABLETS,** the quick and safe cure for Constipation, Nervous Dyspepsia, Insomnia, Nervous Affections, the "Blues" and all attendant evils. It aids digestion, purifies the blood, strengthens the nerves, improves the appetite, induces sweet sleep, tones up the whole system and makes you a new creature. It not only makes you *feel* well, it makes you *really* well. It gives you that vim and vigor which makes life worth living.

LAXATIVE NERVO-VITAL TABLETS

F.B.W. '00.

It contains no narcotics nor bromides nor other injurious drugs. We give the formula with every box. You know exactly what you are taking. Originally put up for physicians' use. Ask your druggist for a **FREE SAMPLE.** If he hasn't it, don't take a substitute, but send us a stamp for our book on "Health" and we will send you a free sample, sufficient for you to try it and test its merits to your own satisfaction. *Isn't it worth trying free?* It positively cures. Price 10c and 25c per box. Don't delay sending.

The Modern Remedy Co., Kewanee, Ill.

to "teachings of dad" 40 years ago, tho he has good dovetailed hives and supers. He does not take the American Bee Journal nor any other paper, as he knows how now without the aid of any city editor's chin music, and he doesn't want a bee-paper! I have taken 600 pounds of fine honey from 28 colonies (in the same range); not a large yield, but it proves a bee-journal will beat 40-year-old methods. C. E. MORRIS.

Carroll Co., Iowa, Aug. 13.

Very Poor Season.

This has been a very poor season with me. The bees made only a living thru July, and almost ceast rearing brood. The buckwheat is in bloom now, but if we don't get some rain soon we will not get any honey. Vegetation is drying up. At this time last year I had 2,000 pounds of honey; this year so far I have taken 200 pounds.

G. W. BELL.

Clearfield Co., Pa., Aug. 13.

A Queer Be(e)-Combed Lizard.

I am sending by mail under separate cover, a new "material" to which bees in a tree attach their combs. As you will see it is a scorpion, or species of lizard. It was found by a farmer in the small hollow of a bee-tree. How it came there is accounted for in this way:

In the winter things of this kind go into hollow limbs and lie dormant till spring. During this long stay it doubtless died, and when the bees went into the tree they could not move it, and it being as dry as wood they just attacht the comb to its back. See?

R. V. GOSS.

Walker Co., Ala., Aug. 3.

[We received the specimen sent by Mr. Goss, for which he has our thanks. The lizard is about 7 inches long, being about a half inch in diameter, and nearly half its length tail. The comb is fastened on its back.—EDITOR.]

Two "Salty" Honey-Plants.

Sweet clover and heartsease are the "salt" that saves the bees and bee-interests in this vicinity. The outlook for a fall honey-flow is not very encouraging, unless we have rain soon.

D. L. DURHAM.

Kankakee Co., Ill., Aug. 10.

Light Honey Crop.

We are having a nice, gentle rain this morning, and we needed it very badly. Our honey-crop is light—no basswood honey this year.

LEWIS LAMKIN.

Woodbury Co., Iowa, Aug. 11.

Shade and Salt for Bees.

My bee-hives all face the southeast, and are in rows 16 feet apart, and five feet apart in the row. I set one sweet clover plant to the right of each hive, and one behind the hive. I use, no other shade. I have had them under trees, but I prefer the sunlight to too much shade.

Some one has askt if too much salt can be given to bees. My experience is that the more salt used the less

SPECIAL NOTICE!

Last winter's cut of basswood is the whitest it has been for many seasons. We are now making sections out of this new stock and therefore are in a position to furnish you with the very finest quality in the market.

LEWIS WHITE-POLISHT SECTIONS

Are perfect in workmanship and color.

Orders shipt immediately upon receipt. A complete line of everything needed in the apiary. Five different styles of Bee-Hives.

Lewis Foundation Fastener simplest and best machine for the purpose. Price, ONE DOLLAR, without Lamp.

G. B. LEWIS CO., Watertown, Wis., U.S.A.

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L. C. WOODMAN..........Grand Rapids, Mich.
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Special Southwestern Agent.

SEND FOR CATALOG.

Please mention Bee Journal when writing

Four Celluloid Queen-Buttons Free

AS A PREMIUM.

OUR TOIL DOTH SWEETEN OTHERS

OUR TOIL DOTH SWEETEN OTHERS

For sending us ONE NEW SUBSCRIBER to the Bee Journal for the balance of this year, with 40 cents, we will mail you FOUR of these pretty buttons for wearing on the coat-lapel. (You can wear one and give the others to the children.) The queen has a golden tinge. This offer is made only to our present regular subscribers.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate, it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

Prices of Buttons alone, postpaid: One button, 8 cts.; 2 buttons, 6 cts. each; 5 or more, 5 cts. each. (Stamps taken.) Address,

GEORGE W. YORK & CO., 118 Michigan St., CHICAGO.

High Grade Italian Queens

One Untested Queen.....	$ .60
One Tested Queen	.80
One Select Tested Queen	1.00
One Breeder..............	1.50
One-Comb Nucleus.......	1.00

27 Years Rearing Queens for the Trade.

We Guarantee Safe Arrival.

J. L. STRONG,

14Atf CLARINDA, Page Co., IOWA.

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☞ IF YOU WANT THE BEE-BOOK

That covers the whole Apicultural Field more completely than any other publisht, send $1.25 to Prof. A. J. Cook, Claremont, Calif., for his

Bee-Keepers' Guide.

Liberal Discounts to the Trade.

Best on Earth

What? Our New Champion Winter-Case. And to introduce it thruout the United States and Canada we will sell them at a liberal discount until Oct. 15, 1900. Send for quotations. We are also headquarters for the NO-DRIP SHIPPING-CASES.

R. H. SCHMIDT & CO.
Sheboygan, Wisconsin.

QUEENS!

Untested Queens, Italian, 60 cents. Tested, $1.00.
From honey-gathering stock.
We keep in stock a full line of popular Apiarian Supplies. Catalog free.

Apiaries—Glen Cove, L. I. I. J. STRINGHAM, 105 Park Place, New York, N. Y.

Please mention Bee Journal when writing

25 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 25 cents a pound—CASH—for best yellow, upon its receipt, or 28 cents in trade. Impure wax not taken at any price.

Address as follows, very plainly,

GEORGE W. YORK & CO., 118 Michigan St., CHICAGO.

Please Mention the Bee Journal when writing Advertisers.

SWEET CLOVER

And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clcver (white)	70c	$1.20	$2.75	$5.00
Crimson Clover	70c	1.20	2.75	5.00
Alsike Clover...............	80c	1.50	3.50	6.50
White Clover...............	90c	1.70	3.75	6.50
Alfalfa Clover	80c	1.40	3.25	6.00

Prices subject to market changes.

Add 25 cents to your order, for cartage, if wanted by freight.

GEORGE W. YORK & CO.
118 Michigan Street, - CHICAGO, ILL.

BEE-SUPPLIES!

Root's Goods at Root's Prices

POUDER'S HONEY-JARS and everything used by bee-keepers. Prompt Service—low freight rate. Catalog free. **WALTER S. POUDER,**
512 Mass. Ave., INDIANAPOLIS, IND.

Please mention Bee Journal when writing.

PATENT WIRED COMB FOUNDATION

Has no Sag in Brood-Frames.

Thin Flat-Bottom Foundation

Has no Fishbone in the Surplus Honey.

Being the cleanest is usually workt the quickest of any foundation made.

J. A. VAN DEUSEN,
Sole Manufacturer,
Sprout Brook, Montgomery Co., N.Y.

CHEAP FARM LANDS

Located on the Illinois Central R.R. in

SOUTHERN ILLINOIS

And also located on the Yazoo & Mississippi Valley R.R. in the famous

YAZOO VALLEY

of Mississippi—specially adapted to the raising of

CORN AND HOGS.

Soil Richest IN THE World.

Write for Pamphlets and Maps.

E. P. SKENE, Land Commissioner,
Ill. Cent. R.R. Co., Park Row, Room 413,
24A24t CHICAGO, ILL.

Please mention Bee Journal when writing

Rocky Mountain Bee-Plant Seed!

(*Cleome integrifolia.*)

...FREE AS A PREMIUM...

The A B C of Bee-Culture says of it: "This is a beautiful plant for the flower-garden, to say nothing of the honey it produces. It grows fromtwo to three feet in hight and bears large, clusters of bright pink flowers. It grows naturally on the Rocky Mountains, and in Colorado, where it is said to furnish large quantities of honey."

We have a few pounds of this Cleome seed, and offer to mail a ¼-pound package as a premium for sending us ONE NEW subscriber to the American Bee Journal, with $1.00; or ¼ pound by mail for 40 cents.

GEORGE W. YORK & CO.
118 Michigan St. CHICAGO ILL.

young brood will be in the hives in the fall, and so there will be a scarcity of young bees in winter. I would not feed salt to bees very late in the season. WM. H. EAGERTY.

Republic Co., Kan.

No Honey—Too Dry.

I see that some of the bee-keepers have honey, but we have none in this section. If we do not get some rain soon our buckwheat crop of honey will be short, and we may have to feed our bees. I never knew but one season as poor as this up to this time.

D. H. COGGSHALL.

Tompkins Co., N. Y., Aug. 6.

No Surplus Honey.

I have 22 colonies of bees in movable frame hives. We have been flooded with rains all year. I have not gotten any surplus honey this season. Last year I extracted 500 pounds of fine basswood honey. W. H. MOORE.

Trinity Co., Tex., Aug. 9.

Not Doing Well.

Bees are not doing well here this summer—too much rain. D. BAKER.

Citrus Co., Fla., Aug. 8.

Fair Surplus Crop.

I have 66 colonies of becs in good condition. The surplus crop is fair.

G. W. MCGUIRE.

Watauga Co., N. C., Aug. 8.

Bees Stored Some Honey.

Bees have stored some honey. They wintered well, but have workt very little in the past two weeks; it has been so dry that the honey-plants haven't done very well. But we have had two big rains lately, so I think there will be some honey stored during August. There will be some buckwheat honey late this fall. The white clover is rather thin, but doing very well. My land runs to within 40 rods of the Green River. C. W. ANDERSON.

Bureau Co., Ky., July 28.

Introducing Queens—Bee-Disease.

I have a Dr. Miller queen safely introduced, and of course I am proud of her. This is the way I did: Anticipating a new queen I placed a hive-body on top of a certain colony, dividing the brood and empty frames about equally in each. When the new queen came I left the old queen in the bottom brood-chamber, and took the top chamber with most of the sealed brood and adhering bees, and made another colony, changing the location of both somewhat. In about seven hours I placed the cage with the new queen on top of the frames. In two days she was out, but the bees that were with her died, or were killed. The fourth day I opened the hive, and found the new queen all right, and showing them how they keep house in Illinois.

My foul brood is all gone now, and one colony that had it has since stored about 60 pounds of fine surplus honey. They must have had either foul or black brood. One of my neighbor's bees have the same disease. There is no bad smell, but it has every other

DITTMER'S FOUNDATION Wholesale and Retail

This foundation is made by an absolutely non-dipping process, thereby producing a perfectly clear and pliable foundation that retains the odor and color of beeswax, and is free from dirt.

Working wax into foundation for cash, a specialty. Write for samples and prices.

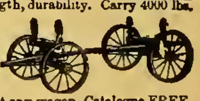
A full line of Supplies at the very lowest prices, and in any quantity. Best quality and prompt shipment. Send for large, illustrated catalog.

GUS. DITTMER, Augusta, Wis.

Beeswax Wanted.

Please mention Bee Journal when writing.

ELECTRIC HANDY WAGONS excel in quality. strength, durability. Carry 4000 lbs. They are Low priced but not cheap. Electric Steel Wheels—straight or staggered oval spokes. Any height, any width of tire to fit any wagon. Catalogue FREE.



ELECTRIC WHEEL CO., Box 16. Quincy, Ills.

Please mention Bee Journal when writing

Italian Queens.

	1	3	6
Untested Queens...............	$0.90	$2.50	$4.50
Select Untested Queens........	1.25	3.25	6.00
Tested Queens..................	1.25	3.50	7.00
Select Tested Queens	2.00	5.00	9.00

These Queens are reared from honey-gatherers. Orders filled in rotation. Nothing sent out but beautiful Queens.

27A9t D. J. BLOCHER, Pearl City, Ill.

Please mention Bee Journal when writing.

That "Peculiar" Wire used in Page Fences is all drawn at our mills.

PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.

Please mention Bee Journal when writing.

Albino Queens by return mail. Untested, 75 cts.; warranted, $1.00; tested, $1.25.

12A26t J. D. GIVENS, LISBON, TEX.

NO EXCESS FARES ON THE NICKEL PLATE ROAD.

Our trains are composed of the best equipment, consisting of three vestibuled sleeping-car trains in both directions between Chicago, Buffalo, New York and Boston, with unexcelled dining-car service, to which are added assurances of safety, speed and comfort, forming a peerless trio of advantages.

Train No. 2, leaving Chicago at 10:35 a.m., with thru cars for Boston, New York and intermediate points.

Train No. 4, leaving Chicago at 2:30 p.m., with thru cars for Buffalo, New York and intermediate points on the Lackawanna Road; also on the West Shore Road, making direct connections at Buffalo with the New York Central and Lehigh Valley Roads; also making direct connections at Brocton for Chautauqua Lake points.

Train No. 6, leaving Chicago at 10:30 p.m., with thru cars for Buffalo, New York and intermediate points; also at Brocton for Chautauqua Lake points.

Individual club meals ranging in price from 35 cents to one dollar, served on all our dining-cars. Rates always lowest. Write, wire, 'phone or call on nearest ticket agent, or Mr. J. Y. Calahan, General Agent, 111 Adams St., Chicago, Ill. (No. 20)

symptom of foul brood. This is what I did:

I first placed in each hive four moth-balls to keep out the moths, as I thought they were too weak to defend themselves. Then I sprayed with a nozzle injector (cost 75 cents) all the combs and bees every seven days, with the preparation given in Prof. Cook's book. And now I don't see any signs of disease. There were three causes for its cure—either the napthaline balls, the Cook preparation, or a heavy flow of catnip honey.

My bees are storing lots of honey. Thanks to the information from the American Bee Journal and text-book, I am beating all the old fogies who are too stingy to subscribe for a journal, or who think they know more than the whole aggregation of bee-keepers summed up in a first-class journal.

A. L. McFarlane.
Wallawalla Co., Wash., Aug. 4.

No White Clover Honey.

We have had no white clover honey this year in this locality, but had a heavy honey-dew. We must depend upon aster for our honey. It has never failed yet, but it comes late.

T. M. Barton.
Pendleton Co., Ky., Aug. 4.

Nebraska.—The annual meeting of the Nebraska Bee-Keepers' Association will be held in the Honey Hall on the State Fair Grounds at Lincoln, Tuesday evening, Sept. 4th. We hope to see bee-keepers from other States present at that time, as well as our own apiarists.

E. Whitcomb, Pres.
L. D. Stilson, Sec., York, Nebr.

THE BOXERS OF CHINA
are attempting to solve a gigantic problem, but they are going about it in the wrong way, and will never succeed. Some people, in this country, seem to think that they have as great a puzzle on their hands in selecting a location for a home. They will certainly go about it in the wrong way unless they inspect the beautiful farming country on the line of the Chicago, Milwaukee & St. Paul Railway, in Marinette County, Wisconsin, where the crops are of the best, work plenty, fine markets, excellent climate, pure, soft water; land sold cheap and on long time. Why rent a farm when you can buy one for less than you pay for rent? Address C. E. Rollins, Land Agent, 161 La Salle St., Chicago, Ill.

H. G. Quirin, the Queen-Breeder,
Is as usual again on hand with his improved strain of
GOLDEN
ITALIAN QUEENS.

The A. I. Root Co. tell us that our queens are EXTRA FINE. We obtained thru special correspondence a breeder from Doolittle, who says, "If there is a queen in the U.S. worth $1 00, this queen is." Queens bred from her, soon as they begin to lay, $1.00 each.

Queens promptly by RETURN MAIL. We guarantee safe delivery.

Price of Queens after July 1.	1	6	12
Warranted	$ .50	$ 2.75	$ 5.00
Selected warranted	.75	4.00	7.00
Tested	1.00	5.00	9.00
Selected tested	1.50	8.00	
Extra selected tested	3.00		
Bees from these Queens all yellow to tip.			

Address all orders to
H. G. QUIRIN, Parkerstown, Erie County, Ohio.
34A6t Please mention the Bee Journal.

Best on Earth

Morton Park, Ill.
The queen I got of you lived 3 years and was the best queen I ever had, and did not swarm.
E. W. Brown.

Three (3) Select Breeding Queens, $2.75.

34Etf HENRY ALLEY, Wenham, Mass.
Please mention Bee Journal when writing.

GINSENG We are Headquarters for **Seed & Plants.**
Valuable book about it, telling how to grow thousands of dollars worth, what used for and who is growing it. Sent for 10c
AMERICAN GINSENG GARDENS, ROSE HILL, New York.
20E8t Mention the American Bee Journal.

California! If you care to know of its Fruits, Flowers, Climate or Resources, send for a sample copy of California's Favorite Paper—
The Pacific Rural Press,
The leading Horticultural and Agricultural paper of the Pacific Coast. Publisht weekly, handsomely illustrated, $2.00 per annum. Sample copy free.
PACIFIC RURAL PRESS,
330 Market Street, - San Francisco, Cal.

BEES QUEENS
Smokers, Sections, Comb Foundation
And all Apiarian Supplies cheap. Send for FREE Catalogue. E. T. FLANAGAN, Belleville, Ill.
Please mention Bee Journal when writing.

FREE FOR A MONTH....
If you are interested in Sheep in any way you cannot afford to be without the best Sheep Paper publisht in the United States.
Wool Markets and Sheep
has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.
WOOL MARKETS AND SHEEP, CHICAGO, ILL.

The Emerson Binder

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.
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offers special advantages for summer tourists on any of its three Vestibuled Sleeping-Car Trains leaving Chicago daily at 10:35 a.m., 2:30 p.m., and 10:30 p.m., for Cleveland, Buffalo, New York and Boston, and will be found a special favorite for Niagara Falls, St. Lawrence River points, the Thousand Islands, the Adirondack and Catskill Mountains and all lower Canadian points, as also to Rochester, Syracuse, Rome, Utica, and all points in the Genessee and Mohawk Valleys. Also for all Northern and Eastern Pennsylvania and New Jersey points, embracing Elmira, Binghamton, Scranton, Wilkesbarre, and all points in the Anthracite Coal regions; also for Chautauqua Lake points, every day.

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HONEY AND BEESWAX

MARKET QUOTATIONS.

Chicago, Aug. 7.—Fancy white comb honey is selling at 15c per pound, with No. 1 grades bringing 14@15c. There is not much demand at present, and will not be until this hot spell shall pass. Very few amber grades on the market and yet what there is does not sell. Extracted white, 7@7½c: amber, 6½@6¾c; dark, 6@6½c Beeswax, 28c. R. A. Burnett & Co.

Cincinnati, Aug. 8.—The demand for extracted honey is slow, while the shipments are many. I quote as follows: White clover, 8@8½c; Southern and amber, 6½@7c. Comb honey sells as fast as it arrives at the following prices: Fancy, 16@16½c; No. 1, 15c. Beeswax, good demand, 25c. C. H. W. Weber.

Boston, Aug. 8.—Fancy 1-pound cartons, 17c; A 1, 15@16c; No. 1, 15c; No. 2, 12@13c. Extracted honey from 7½@8½c, as to quality.

It is too early in the season and too warm for any inquiry on honey, so prices named are only nominal. The prospects in this vicinity seem to be for a light crop. Blake, Scott & Lee.

Buffalo, Aug. 18.—For strictly fancy white one-pound comb honey we are getting 16@17c. Any grade sells high—10@15c, as to grade.
Batterson & Co.

Kansas City, Aug. 20.—Very little comb or extracted honey in the market yet. We quote: No. 1 white comb, 14@15c; No. 2, 13@14c; No. 1 amber, 13½@14c; dark, 11@12c. Extracted, white, 6½@7c; amber, 6@6½c; dark, 5@5½c. Beeswax, 25c.
W. R. Cromwell Produce Co.,
Successors to C. C. Clemons & Co.

Detroit, Aug. 10—Fancy white comb, 14@15c; No 1, 13@14c; no amber or dark to quote. White extracted, 6½@7c. M. H. Hunt & Son.

New York, July 26.—There is a fair demand for white comb honey, and enough arriving from the South to supply the demand. Fancy white sells at 15c; No. 1 white, 13@14c; No. 2 white, 11@12c. Extracted remains rather quiet, and the market is sufficiently stockt to meet the demand. Beeswax very firm at 28@29c.
Hildreth & Segelken.

San Francisco, Aug. 8.—White comb, 12@12½c; amber, 9@11; dark, 6½@7½c. Extracted, white, 7½@7¾c; light amber, 6¾@7¼c; amber, 5½@6c. Beeswax, 26@28c.

There is not much honey coming forward at present from any quarter, neither is there very brisk demand locally or for shipment at full current rates. Water-white honey is the scarcest sort, and market for this description shows the most firmness.

WANTED—HONEY AND BEESWAX.
We have a tremendous and growing trade in this line, and would like to hear from all who have such goods to sell in any part of the country, with quality, description, and lowest cash price. Thos. C. Stanley & Son, Fairfield, Ill.

WANTED COMB HONEY AND EXTRACTED HONEY. Will buy your honey, no matter what quantity. Mail sample with your price expected delivered in Cincinnati. I pay cash on delivery. C. H. W. WEBER, 2146 Central Ave., Cincinnati, Ohio.

Extracted Honey Wanted

We have a demand for AMBER extracted honey. Please let us know how much you have, how put up, and cash price wanted f.o.b. your railroad station. Also mail us small sample for inspection. Address,
GEORGE W. YORK & CO.
118 Michigan Street, - CHICAGO, ILL.

Wanted To Buy Honey
What have you to offer and at what price?
33Atf ED WILKINSON, Wilton, Wis.
Please mention Bee Journal when writing.

FALL SPECIALTIES
Shipping-Cases, Root's No-Drip; Five-Gallon Cans for extracted honey, Danz. Cartons for comb honey. Cash or trade for beeswax. Send for catalog. M. H. Hunt & Son, Bell Branch, Mich.
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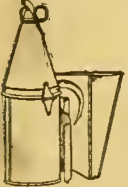
No wonder Bingham's 4-inch Smoke Engine goes without puffing and does not



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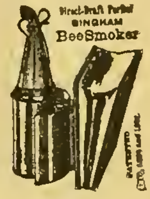

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are the original, and have all the improvements, and have been the STANDARD OF EXCELLENCE for 22 years. Address,

T. F. BINGHAM,
Farwell, Mich.

I ARISE

To say to the readers of the BEE JOURNAL that

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has concluded to sell QUEENS in their season during 1900, at the following prices:

1 Untested Queen ..	$1.00
3 Untested Queens..	2.25
1 Tested Queen	1.25
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1 select tested queen	1.50
3 " " Queens	4.00
Select Tested Queen, last year's rearing.	2.50
Extra selected breeding, the very best..	5.00

Circular free, giving particulars regarding each class of Queens, conditions, etc. Address,

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11A26t Borodino, Onondaga Co., N. Y.

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Inland Poultry Journal Co., Indianapolis, Ind.

23rd Year **Dadant's Foundation.** 23rd Year

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We guarantee satisfaction.

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Beeswax Wanted at all times.

CHAS. DADANT & SON,
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One Untested Queen Free as a Premium for sending ONE New Subscriber to the American Bee Journal for one year.

We have been fortunate in making an arrangement with DR. C. C. MILLER—the well-known honey-specialist—to rear queens EXCLUSIVELY FOR US DURING THE SEASON OF 1900. These Queens will be mailed in rotation, so "first come first served."

The Queens Dr. Miller will send out on our orders will be precisely the same as those he rears for his own use, so of course they will be from his best stock. His best colony in 1899 had a queen reared in 1898; May 5, 1899, it had brood in 4 frames, and he gave it at that time a frame of brood without bees. It had no other help, but May 25 a frame of brood with adhering bees was taken from it, and the same thing was repeated June 3, leaving it at that time 5 frames of brood. It stored 178 sections of honey, weighing 159 pounds (and that after July 20, in a poor season), being 2⅔ times the average yield of all his colonies. A point of importance is the fact this colony did not swarm, and an inspection every week or 10 days showed that at no time during the entire season was there even so much as an egg in a queen-cell. Dr. Miller rears queens from this one.

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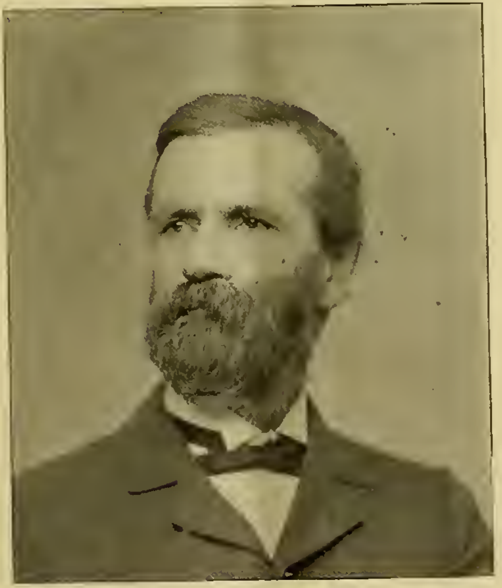
AMERICAN BEE JOURNAL

GEORGE W. YORK,
Editor.

CHICAGO, ILL., AUGUST 30, 1900.

FORTIETH YEAR.
No. 35.

WEEKLY



HON. EUGENE SECOR,
Gen'l Manager and Treasurer of the Nat'l Bee-Keepers' Association,
Forest City, Iowa.

THE AMERICAN BEE JOURNAL.

PUBLISHT WEEKLY BY

GEORGE W. YORK & CO.

118 Michigan St., Chicago, Ill.

[Entered at the Post-Office at Chicago as Second-Class Mail-Matter.]

IMPORTANT NOTICES:

The Subscription Price of this journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50c a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "Dec00" on your label shows that it is paid to the end of December, 1900.

Subscription Receipts—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows you that the money has been received and duly credited.

Advertising Rates will be given upon application.

Reformed Spelling.—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

The Weekly Budget

Hon. Eugene Secor, whose portrait graces our first page this week, needs no formal introduction to American bee-keepers. We may say, however, for the benefit of the newer readers, that he was born in New York State, May 13, 1841, being one of 11 children—a good old-fashioned family. At the age of 21 he went to Iowa, and in 1864 entered Cornell College. In 1866 he married Millie M. Spencer—a native of Ohio, of course! They have four children living—six having "gone on before."

Mr. Secor has held many prominent and responsible positions, to enumerate which would take too long and occupy too much space, tho it may be briefly noted that he is a Methodist, a banker, farmer, horticulturist, apiarist, stock-breeder, president and ex-president of nearly everything, and the "poet laureate" of apiculture—a sample of the latter being found on another page of this issue.

****

Mr. J. H. Siple, of Bolivar Co., Miss., is spending a few weeks in Chicago. He is attending the National convention, after which he expects to return to look after his over 250 colonies of bees "way down in Mississippi."

****

Mr. John R. Schmidt, of Hamilton Co., Ohio, writing us Aug. 20th, said:

"The season has been quite poor. One apiary of 35 colonies yielded about 200 pounds of surplus honey. Others have done worse, and some a little better. I have doubled my number of colonies, and averaged 48 pounds of A No. 1 comb honey per colony, which is about half the amount I have been working for *ever since last fall.* Only those who gave their bees the necessary care can boast of a crop. The others say there was no honey this year. Certainly, not for *them.*"

****

Stenog gives this stanza as his first "pickup," in last Gleanings in Bee-Culture:

"From brazen skies the sun pours down
  A flood of torrid heat:
All Nature pants beneath the scourge,
  The bees get little sweet."

A Dutchman friend thinks this expresses it also:

Dot sun bin awful warm, I dinks,
  He makes dot hot coom oud;
Und all dose flow'rs dry oop, py chinks—
  Pees not could vork deir moud.

****

Mr. Frank B. White, of the agricultural advertising firm of Frank B. White Co., of Chicago, is one of the whitest men we know. Tho not a bee-keeper, he is greatly interested in the success of bee-keepers, and, in fact, in the success of all agricultural people. Without any invitation, or suggestion, he volunteered financial assistance, and was among the most generous contributors to the expenses of the National convention of bee-keepers now being held in Chicago. We believe his tribe is increasing, as it very properly deserves to do.

****

Bee-Keeping in Hungary.—The British Bee Journal says that in 1897 there were 641,127 colonies of bees in Hungary, of which 197,382 occupied hives with movable frames, and 443,745 were in straw hives. The honey was estimated at 6,800,000 pounds, and wax 3,000,000 pounds.

****

Dr. E. Gallup, of Orange Co., Calif., wrote us Aug. 6, as follows:

"As I went up town last week I past a century plant in full bloom, about 20 feet high, and literally alive with bees and humming-birds. Why don't bee-keepers advocate its planting for honey, as it is sure to bloom once in a hundred years? (!)

"This county has produced about 48 or 50 tons of honey this year, and San Diego county 400 tons; and it is about all marketed at from 5 to 6¼ cents—nearly all for the German market."

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HONEY QUEENS!

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Or, send us $1.50 and we will mail you a Queen and also credit your own subscription for One Year.

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Establisht in 1861

AMERICAN BEE JOURNAL

The Oldest Bee-Paper in America

40th YEAR. CHICAGO, ILL., AUGUST 30, 1900. No. 35.

Editorial Comments.

It's Just the Same "old reliable" American Bee Journal—only it has a brand new bonnet, and very properly "a bee in it."

The Chicago Convention of the National Bee-Keepers' Association will have closed by the time the majority of our readers receive this number of the American Bee Journal. We hope that, as anticipated, it was the largest and best bee-keepers' convention ever held on this continent. Surely, the program promist a rich treat for all who could attend. We expect very soon to begin the publication of the convention proceedings in these columns.

A Mission of Bee-Editors.—One of the editors of the British Bee Journal has this to say on the mission of the bee-editors:

> "There can be no reasonable objection to individual bee-keepers making hives for their own use to whatever style, size, or shape they may prefer; but it forms part of our mission as editors to guide readers into the methods of management proved by experience to be best........While allowing perfect freedom for all so far as regards personal preferences, we strongly deprecate any general interference with the size or measurement of the standard frame."

Nothing wrong with that view, as we can see.

To Find a Queen, one of the plans is to put the combs in pairs, having the pairs a little distance apart, using an additional hive for the needed room. After a time the bees without the queen will show signs of uneasiness, and the operator may look for the queen in the brace of combs where the bees are quiet. W. W. Case gave the plan in Gleanings in Bee-Culture, and Editor Root did not find it a success. The probability is that he did not wait long enough for the bees to have time to discover their queenlessness; and still greater is the probability that he did not heed one little item in Mr. Case's instructions, which was to open the hive rather roughly. If a queen is removed from a hive very quietly, a colony may not discover its loss for some hours, while the loss may be discovered in a less number of minutes if the bees be forcibly thrown from the combs, or be otherwise roughly handled.

New Kinks from the Inexperienced and Others.—It should not be supposd that only those with large experience and with large numbers of colonies of bees can write acceptable matter for a bee-paper. Sometimes an item is given by a novice that is of value to many others, possibly new to some of the veterans, and yet no one of the veterans familiar with it would think of giving it in print, because of the supposition that all were already familiar with it. Often some little kink in bee-keeping may not be common property, and the experienced bee-keeper is always appreciative of such things, for it is the little things that often count the most.

Several illustrations of what has just been said have appeared lately. Editor Root told how he got the better of some cross bees by taking a piece of lath, or something of that kind, and whirling it rapidly in front of his face, so that every time one of the invaders approacht him there was a dead bee. Dr. Miller said he had used the same plan for many years, but did not know enough to tell about it. No doubt many others had thought of and practiced a thing so simple, but like Dr. Miller had not known enough to tell of it. In the July Bee-Keepers' Review the following item occurs:

> "BRACE-COMBS IN SUPERS are sometimes attacht to the separators, and when the sections are taken out a piece of comb is pulled out. To avoid this trouble, set the super up on end, look thru the spaces, and if any brace-combs are seen, cut thru them with a sharp, thin knife, giving the knife a sawing motion."

To this Editor Hutchinson adds the comment:

> "This is another of those things that I supposed everybody knew, but Mr. J. T. Hairston writes as tho it was quite a discovery to him, and, if so, it may be to some others."

So do not hesitate to give freely little items of experience you have gained. They may be of as much value to others as to you. If not generally known, such items will always be welcomed in these columns. If so well known that you do not find what you have sent appearing in print, do not be discouraged; the next item you send may be just the thing that is wanted.

Should Extracted Honey be Left Open in tanks or cans for the sake of improving its body by evaporation? was a question discust in the Canadian convention, as reported in the Canadian Bee Journal. Mr. McKnight, with whom the others seemed to agree, exprest himself somewhat strongly against it, on the ground that such exposure would allow the aroma to escape. He said:

> "It altogether depends upon the character of the vessel in which it is put, and the conditions of the atmosphere, whether it improves or deteriorates. There is one thing certain, that if you put honey into an open vessel and keep it there for a certain length of time, it will lose its aroma whether it improves in body or fails. The essential oil which gives the honey the aroma is a volatile oil, and will pass off if it gets a chance, and it will get a chance in an open vessel; therefore, it will deteriorate so far as losing its aroma is concerned. As to its body, that depends much upon the temperature, the condition of the atmosphere, and the season of the year."

Dampening Sections for Folding.—When one-piece sections have been allowed to become dry they can not be folded without much breaking, and must be moistened in some way at the joints, where the wood is to bend. In Gleanings in Bee-Culture mention was made of taking 30 or more at a time, and Dr. Miller said it was too slow work.

to take so small a number. The editor replied that he thought nothing would be gained by putting 100 or 200 in a row. To this Dr. Miller replied:

> "Bless your heart, I don't put any in a row at all. I just take a package as it comes from the factory, and, without taking out a section, wet the whole business at one fell swoop. I've told how, but I'll tell again. Take off one side of the package so as to expose the grooves, and see that the ends of the sections are chuckt down solid together so that a drop of water let fall on a groove can run right down thru the whole. Understand, as the package lies before you, the edges, not the sides, of the sections are uppermost. Put a plug in a funnel that closes the opening entirely, except a groove at one side to let thru a very small stream. Let the plug project downward, and be whittled down to a point. Take a tea-kettle of water *boiling hot*, pour it into the funnel and direct the stream along the line of grooves, moving just fast enough so that the hot water will run clear thru."

Editor Root very properly suggests that this will work only with square sections, unless care be taken to place all the sections the same way in a box, so that each set of grooves will register with those below.

The Somerford Nucleus Plan Modified. In Gleanings in Bee-Culture W. A. H. Gilstrap speaks very highly of the plan of forming nuclei given by W. W. Somerford, which consists of making queenless several colonies, then in about nine days dividing the colonies into nuclei, each nucleus being supplied with queen-cells, and the nucleus being fastened in by means of leaves stuft into the entrance, which leaves the bees will themselves remove. Mr. Gilstrap says:

> "This splendid plan of increase is all right if you have a sufficient number of *best* queens. I am never so fortunate. It has been desirable for me to modify the plan in order to make rapid increase and properly improve stock. But it takes more time than to follow Mr. Somerford's method entirely.
>
> "The modification which suits me best is, first, to get queen-cells by the Alley, Doolittle, Hyde, or other good plans from your *best* queen. Destroy as many of your *worst* queens as is necessary. When the brood is sealed, destroy all queen-cells of this inferior stock, and the following day form nuclei, using the cells from your choice stock, confining as Mr. Somerford directs. My best success has been where I stopt the hive-entrance with strips of old grain-sacks, but it is always convenient for me to liberate the bees if they fail to do so."

Bee-Keeping for Boys has not had the same attention as bee-keeping for women. Women nowadays are getting more and more able to hoe their own row, why not give the boys a chance? Here are some wise words spokenby J. J. Gunn, of Manitoba, in the Northwest Farmer:

> "I would also suggest that when casting about for answers to the perplexing questions how to keep the boy on the farm, it might be a good idea to try what giving him a start as a bee-keeper in a small way would do. Very few boys, it seems to me, would fail to make a gratifying response to such a move. The management of an apiary for a number of years would not only be a business training, but would, I believe, foster and develop in most boys an appreciative love of nature and power of observation that would help them to a just discrimination between the perennial attractiveness of 'Nature, the dear old nurse,' and the tawdry varnish of city artificialities, which, unfortunately, possess such a fascination for young minds to which no healthful impetus and direction have been given."

To Avoid Propolis Between Sections and Sheet, a writer in the British Bee Journal says he succeeds by putting on the sheet wet. This allows it to be prest down snug on the sections, and it will remain close to the wood when dry, so that the bees will not be tempted to fill up the space with propolis. This may be worth trying for those who use sheets over their sections.

The Marriage of the Flowers.

BY HON. EUGENE SECOR.

In the meadow grasses tall
  Bloomed a maiden Buttercup,
Golden as the yellow ball
  With a Jersey cow yields up.

Sweet and beautiful she grew,
  Fair enough for any king,
But no flower-lover knew
  How this maid was blossoming;

For the meadow grass was high,
  And she'd never learned to roam—
Was content if sun and sky
  Kist her in her meadow home.

But the time had come to wed,
  And new longings filled her heart;
Quiet happiness had fled,
  Only *love* could heal the smart.

She had drunk the thought of God—
  Longed for immortality;
Shrank from sinking 'neath the sod,
  Barren, like a fruitless tree.

"Who will bring my Love to me?
  Who will make my passion known?
Who will come and set me free
  Ere I die, unblest, alone?

"Over yonder hedge one hears
  Mirth and music 'mong the flowers;
No one heeds the sighs and tears
  Which my love has caused for hours.

"Who will make my passion known?
  Who will take me to my Love?
When shall I embrace my own,
  Witnest by the blue above?"

Thus she cried and mourned her fate,
  Just as any maid might do
When her days are growing late,
  And she has no lover true.

Sweetness, tho, is never lost!
  Never blossomed flower in vain!
All the wisdom which these cost
  Argues lasting good and gain.

In the universe of God
  Nought is wasted which is made;
Monarchs rule and daisies nod,
  Working out the plan he laid.

Bird, and beast, and grass, and tree,
  Each contributes unto each;
Scented rose and social bee
  Both the art of service teach.

So the lonely maiden wept
  Nect'rous drops of amber dew,
Wondering why her lover slept
  Since the wind her passion knew.

Priestess Bee her secret guest
  Stopt to kiss her tears away—
Promptly volunteered the quest
  For a mate that very day.

Swift of wing, and tireless, too,
  Quickly she from flower to flower
Told the story as she flew,
  And returned within an hour

Bearing golden pledges back
  From the tallest flower of all;
Sealed the union with a smack—
  But remarkt, "*The fee was small.*"

Contributed Articles.

A Review of Bee-Books—"Langstroth Revised."

BY PROF. A. J. COOK.

IT is my purpose in a series of articles for the American Bee Journal to comment upon some of our bee-books, three of which I have carefully read during the past few months. I write in the spirit of most friendly criticism. I am proud of all the works. I well may be proud of them, for each one is not only a credit to the author and the art of bee-keeping, but also to the great world of book-making. Each is genuine and honest; and each shows the results of hard, persistent effort to benefit the people for whom the work was written. When any man writes a book with true, unselfish, disinterested purpose, aiming to benefit, refine and exalt those for whom he writes, well may we call such a man a philanthropist. He is adding another sheaf to the great garner of true, honest work, and, therefore, blesses the world.

The above thoughts were called forth by each of the three books which it has been my pleasure and my great profit to read in these last weeks, and which I now propose to review for the readers of our excellent American Bee Journal. The three books in the order in which they were read, and in which I shall review them are, "Dadant's Langstroth," Root's "A B C of Bee-Culture," and Cowan's "The Honey-Bee."

"LANGSTROTH ON THE HONEY-BEE."

It is with peculiar pleasure that I studied this masterpiece of bee-literature. It brought so vividly to mind the delights which came to me over a third of a century ago when I read that classic, not only in the presentation of the art side, but also in the revelation of the processes of scientific discovery—"Langstroth on the Honey-Bee."

Langstroth combined in himself that happiest trio of possessions—genius, rich culture, and, best of all, a pure, refined heart. Combine with these a masterful gift of language, and surely we have a rare specimen of manhood. All *that* was our dear friend Langstroth. Mr. Dadant has wisely left untoucht those parts of the original work where new discoveries in art and science did not require a new cast. It has always been a wonder to me, as I have gone over the eloquent paragraphs of Langstroth's great classic, how it was possible for any man to divine so many of the hidden facts of both science and practice, as did our genial, kindly old friend whose memory is so dear to every American bee-keeper. This shows that he was a genius. A graduate of Yale College, he possest the rare culture which is every genius' helpmeet. As a man, absolutely honest, and one who thought no evil, he was so guileless that others of very different mold were quick to take advantage of his very loveliness. The conduct of some others toward Mr. Langstroth furnishes the darkest page in all the great volume of American apiculture. I believe such treatment today would be impossible. God be praised that the world is moving so rapidly towards higher ideals and better lives.

Rev. L. L. Langstroth.

Mr. Dadant, as one of the ablest bee-keepers of the United States, and one conversant with the bee-literature of the world, was, without doubt, just the person to undertake this important work. I doubt if he has a rival in his ability in the direction of extracted honey and the production and use of comb foundation. Thus, as we should expect, wherever he has toucht the pages to bring the work into line with the best modern practice and knowledge, we are not pained by any serious contrast, as we might well expect to be.

It is to be regreted that he gives Cheshire credit for illustrations which the latter took without credit from such authors as Schiemenz, Wolff, etc. But, of course, he can not be blamed for this. He also gives Cheshire credit for ideas which the latter also plagiarized. A copyist is always likely to run into error, especially a copyist who gives no credit. It is always dangerous to follow such an one. Mr. Dadant could not know regarding this, and so is not blamable for the blemishes. It seems questionable to criticise so excellent a book, but the mistakes as I have seen them are so few that I am bold to do so.

In a note on page 14, taken from the great Claude Bernard, I think there is plainly an error. "If you deprive a bird, a pigeon, for instance, of its cerebral lobe it will be deprived of its instinct, yet it will live if you stuff it with food. Furthermore, its brain will eventually be renewed, thus bringing back all the uses of its senses." As I understand, instinctive actions are such as take place independent of the cerebrum. Walking after one is started is almost wholly instinctive. We do it without thought. The cerebrum plays no part. The piano-player acquires ability so that after commencing to play a piece the fingers run on and the person may talk or sing something else. I have heard instinct called "frozen habit." We cut a frog's head off, throw the body into the water, and it swims almost as well as before the decapitation. These are purely reflex acts, and I think are akin to what we call instinct. The cerebrum, of course, takes no part. I supposed that the nerve-cells that were the center of instinctive actions were largely, if not wholly, outside of the cerebrum; the latter is the great center of intelligent action. Again, I did not suppose that brain tissue once lost was restored. I had thought that a fatty substance replaced it. We know that the function comes back, and so are led to believe that a part of the brain, upon occasion, may do the work previously done by quite another part. I am surprised that Bernard wrote the above paragraph. I do not believe he would have done so in the latter part of his life.

On page 15 the glands that appear like a string of onions are referred to as the upper head-glands. I remember them as lower than the other glands, and would call them the lower head-glands.

On page 16 Cheshire and others are quoted as showing that the secretions of these glands is the food of the larvæ, queen, etc. We now know positively that this is not true. The food of the larvæ, etc., is digested and regurgitated by the nurse-bees, and the secretion is a digestive fluid. Even Schiemenz (from whom so much of Cheshire is taken) made this mistake. By mixing finely ground charcoal with honey I have found that it appears in the brood-cells. This demonstrates that the nurse-bees digest the larval food.

On page 17 we read that the food eaten by the queen is digested and assimilated by the bees for her use. Of course, this is a wrong use of the word assimilated. To assimilate is to convert into tissue. It may be defined in some of the dictionaries as a synonym with digestion; but it is not so used in our physiologies. It is rather synonymous with constructive metabolism or anabolism.

On the same page (17), in speaking of the racemose glands, the other glands of the head and those of the thorax, it is stated that the saliva produced from them helps the digestion, changes chemical conditions of nectar, helps to knead the scales of wax, and perhaps the propolis. The author adds that it is also used to dilute the honey and moisten the pollen-grains. I believe too much is claimed for this secretion. It certainly aids in digestion, for it without doubt digests the nectar. I would hardly claim more for it, at least with any great positiveness.

Los Angeles, Calif.

(Concluded next week.)

The France Quadruple Hive System.

REFERRING to page 466, how does Mr. France fix the entrance thru the chaff packing?

2. Why does he have upper and lower entrances?

3. Why use auger-holes instead of ordinary entrances?

4. How are the hive-bodies set on the bottoms? Facing which way?

5. Does he use the ordinary hive-bottom—Danzy?

6. Are the two or three auger-holes sufficient to admit a rush of bees in the honey harvest?

7. Does he remove the middle band for winter?

Cook Co., Ill. HERMAN F. MOORE.

[Mr. France kindly replies to the above as follows:—EDITOR.]

1. A 2-inch space packt with chaff on all sides of the hive. The entrance is thru 2x4 inch blocks, with entrance cut thru the block. Lower entrance, ¾-inch notch in the block on the bottom-board.

2. If only lower entrance, it may get clogged in winter; also is not entrance enough during the harvest season, hence the upper entrance—2-inch auger-hole, with button nearly to close the same in winter.

3. Auger-holes are easily made, and are mouse-proof in winter.

4. The hive-bottom is nailed on the hive when the hive is made. One entrance on each side—north, south, east and west. A 20-year record of each colony finds no preference in direction of entrance. I have seen similar hive-entrances to the east and west with good results.

5. Standard Langstroth frame.

6. Yes; during the honey-flow the upper entrance is open, but nearly closed at other times.

7. The hive-band is removed only when the hives are three stories high, during the honey harvest.

Grant Co., Wis. N. E. FRANCE.

Comb Honey—Harvesting, Storing and Crating.

BY F. A. SNELL.

IN harvesting or taking comb honey from our bees it is important that we do it at the right time, especially if intended for market, which is the case with the more extensive bee-keeper. In securing comb honey I practice the tiering-up system, and have done so for over 30 years. I can get more honey by this system than any other I have ever tried, and they have been many. One super of boxes is first given each strong colony run for comb honey, and as more room is required the first cases are raised up and a new one placed beneath, and at times during good seasons the third case is added and placed next to the brood-chamber.

I go thru my apiary twice each week during a good flow, and note the progress being made in the supers, as I can quickly do, as every super has an observation glass thru which I can at a glance see what is being done. All completed supers are removed from the hives at each time, freed of bees, and taken to the honey-room adjoining the bee-yard. At this time, if more room is needed it is given each colony requiring it.

To have the honey in the best shape to sell, it should be removed from the hives as soon as all is capt over. The beautiful cappings are then white and very inviting. If allowed to remain long after being capt in the hives the cappings become darkened by the bees, and the appearance is injured.

As the summer harvest, which here is secured from white and alsike clover, and basswood, nears its close, less surplus room should be given, for by the contraction of space in the supers more combs will be completed than in the larger space, and I desire to get all the finisht comb honey possible. At the close of surplus gathering from the above sources, all the supers should be removed from the hives, cleared of bees, and stored in the honey-house.

For the correct storing of surplus honey a warm, dry, and airy room is essential. There should be windows at least on two sides of the room to admit light and a good circulation. The windows should be opposite, and I think preferably at the east and west sides of the room. The building should not be shaded, and should be painted a dark red or some dark color, so as to draw heat. The hot, dry air of summer will in motion do much to still better ripen the honey. Screens of fine wire should be tackt on the outside of the window-casing at the bottom and sides, and a ⅜-inch space left at the top by full width of the window, and extend about one foot above the window. This will allow any bees that may be carried in with the honey to escape at the top, and will also exclude all bees, flies, and millers.

The building should be one foot or more above ground, so no dampness may be caused from beneath. The windows should be left open on all pleasant days in summer. Of course, the honey-room should be mouse-proof. A strong rack should be made on which to place the honey, and preferably at one side or end of the room, as it will so least interfere with working room. The rack should be one foot above the floor, so the air may freely pass under it. A row of cases should first be put on, and on top of these at the front and back strips one inch square should be placed; and this should be continued in the same way until the space is filled to the ceiling of the room, if necessary.

All of the finest honey should be stored in a body, and that not so fine by itself. At the time the honey is taken in I place it to one side, and the next morning clean off the propolis from the supers and boxes, so far as we can, and tier it up on the rack in the proper place.

By storing the honey as above stated, the hot air circulates freely all thru between the cases and boxes, just as it should do to ripen the honey more fully. The honey is thus left until time for crating to market, which is of necessity after the close of the summer harvest. Some is crated to supply my home demand, but the larger part is left until September.

The supers taken off at the close of the summer harvest not completed are tiered separately.

To handle and crate comb honey properly requires much care. The delicate combs are very easily cut or bruised, and a little carelessness will result in broken combs and dripping honey. In crating comb honey I have a case at my right hand on a bench; at my left I place a honey-case. A section-box is raised from the super, taken in the left hand, and with the right hand I use the hive-opener with which I scrape off the propolis from the box and place it at one corner of the case, next the glass. The second section is removed from the super, and placed next to the first one in the case, and so I proceed until the case is filled. The other supers of the same grade are thus emptied. If any combs are cut, or in any way broken, such should not be put in the case. A very few broken combs, if cased, will make a dauby mess, as the honey will cover much of the case bottom and drip thru, thus disgusting all who may in any way later handle the honey.

I usually case my nicest honey first, which I grade as No. 1. That not so white in comb, or a little colored by the bees, and combs not so complete, is styled No. 2. The honey in the cases of each grade should be uniform in quality. The honey next the glass in each case should be no nicer than that in the central part. The honey should in other ways be cased so that to see the combs next the glass, as it stands in the store or commission house, may be an evidence of the quality of the whole case without further inspection. When honey is so put up, the purchaser, whether grocer or consumer, can take it, and handle it comb by comb with satisfaction in selling or using. Every bee-keeper has his own reputation to build up and hold; if he expects good sales in the future, his goods should be as represented by the honey in full view.

The partially filled supers taken off at the close of the summer harvest should be lookt over, and all complete boxes cased for sale, and those not so filled returned to the hives at the opening of the fall honey-flow, if such comes.

For the second grade I use very few uncapt combs, or those combs not nearly all capt. I sell some of the partially capt combs to neighbors, or to those who call and may see and prefer it at a lower price. Those not sold at the close of the honey season are emptied and used the next season. My honey-cases have two glass sides, which show off the honey to good advantage, and aid sales. The covers are tight fitting, and come over to the outside of the cases thus keeping out all dust, etc.

Carroll Co., Ill.

New Apiarian Inventions—Are They Needed?

BY JOHN H. MARTIN.

(Read at the last meeting of the California State Convention.)

EVERY bee-keeper recognizes that in order to get the most profit out of the bees, the business must be conducted upon a large scale. We have examples in many portions of the country where the owner of many apiaries, and at least a thousand colonies of bees, are the ones that are deriving the greatest profit from them, and the profit is increast according as they adopt short cuts in the labor, and where hired help is dispenst with as far as possible.

While working our bees for extracted honey, our present method of removing each frame separately and brushing the bees therefrom, and stirring them up to a high state of anger, may be clast as a primitive and roundabout way of management.

I will outline some work that is being done along this line with some degrees of success. In the first place, a shallow super is required. If the cover is quietly removed from such a super, and a cloth saturated with a solution of carbolic acid is spread over it, the bees, having a dislike to the odor, will soon leave the super, and it can be removed. Or a shallow super that is fitted with close-end frames that can be held firmly in place can be rid of the bees by a peculiar method of shaking.

The Porter bee-escape has been recommended by some bee-keepers, but it is too slow in its operation, and on that account should be discarded for this particular purpose.

Then, when the exigencies of the time demand, we will have a machine for uncapping the honey. I have gone so far with some experiments in this line that I am quite sure that a machine can be constructed that will uncap six or eight combs in just a few seconds; or, in other words, you touch the button and the machine will do the rest.

When a bee-keeper can uncap a number of combs as quickly as he can one side of one comb, there is a distinct gain in time, and a consequent reduction in the cost of production.

An ordinary two-frame honey-extractor will, when the combs are well filled with honey, enable us to extract ten pounds at one operation; and to double this amount the four-frame extractor has been introduced; but now we need in a large apiary, and to follow the lightning uncapping machine, an extractor that will enable us to extract 100 pounds at one operation, and nearly as rapidly as one man can extract ten pounds with a small machine. The labor then would in a great measure be with the care of the honey, getting it into cans and to market.

I also certainly expect that the automobile will play an important part in honey production. There is no bee-keeper who feels safe to drive a span of horses near a bee-ranch, except in the night, and we learn of the death of horses every year from the stings of angry bees. The automobile will enable the bee-keeper to approach, or pass directly thru, the apiary with his load of appliances and honey at any seasonable hour; and the automobile can be used for a variety of purposes in the apiary, running a saw, running the extractor, or anything where light power is needed.

Franklin's printing press was a crude affair, but it answered the purpose when Franklin was a printer, and the circulation of papers was limited, but Franklin's press would make a sorry show beside the modern lightning press; but the bee-keeper's interests are not so extensive, like the making of newspapers, and inventors will not give their time to the invention of appliances that will have but limited sale; but we may be quite sure that if the business had warranted it, such rapid manipulation as I have outlined would have been in use long ago.

When we further consider the subject of new inventions for the apiary and its management, we find that there is room for improvement in every line of our work. The smoker with which we subdue our bees is too large and cumbersome to operate with dispatch. In fact, with any of our bellows smokers quite a percentage of our time is spent in working the bellows. My ideal smoker would be not overlarge, and with it I would have a proper, prepared fuel, and it should be self-operating; and so arranged that both hands of the bee-keeper can be used in the manipulation of the hive while the smoker is doing its part automatically.

We need new and fancy packages for small amounts of honey, something that can be sold on the street and on the lines of transportation.

Such a package was sent to me some time ago, and it workt like a charm. The honey could be eaten from it as it was held in the hand, but there was a strong objection to the material it was made from. It was made from the same material that forms the covering for sausages. Such material is all right when applied to sausages, but there is an evident unfitness of things when applied as a receptacle for honey.

The foregoing improvements I think will occupy the attention of bee-keepers in the near future, and greater than these will certainly be develope if the exigencies of our industry demand.

"The Importance of Water for Bees."

BY G. M. DOOLITTLE.

ON page 482 is a most remarkable article, considering that it comes from the pen of that careful observer, Prof. A. J. Cook. Not that I think that we know "all that is to be known regarding the use of water in the apiary," but *facts* go to prove that his analogy regarding the bees and higher animals is faulty, and his logic mainly theory rather than logic coming from close observation.

Did Prof. Cook ever see a bee perspire? If so, he has seen something I never saw, and I have lookt particularly on this point. He has doubtless seen perspiration stand on nearly all of the higher order of animals. He quotes bees dying of suffocation as proof of perspiration. But had he toucht his tongue to one of those bees just dead from the "water of respiration," and "of perspiration," he would have found that instead of a "mass of dead bees and water," he had a mass of dead bees and stickiness, thus showing that in their dying efforts the bees had disgorged the honey they had taken thru their disturbance caused by being shut up. And had he allowed these "stuck up" bees their liberty just before death overtook them, in a place where they could "wallow" in the dust and dirt, as I once happened to do, he would have found that the dust and dirt was fastened to them after dry, very much as paint is fastened to a building, rather than becoming a dust that would rub off easily, as dust always will where only water is mingled with it.

Again, facts prove that bees visit watering-places to any great extent only when *brood* is being reared, instead of at times of greatest heat and activity, as Prof. Cook's theory would lead him and us to believe.

Let me give some facts which I have observed almost times without number. In March, April and May I have seen bees by the thousands repairing to the watering-places with the mercury at from 45 to 50 degrees—so cold that, should a cloud pass over the sun, hundreds and thousands would remain chilled, and die from the cold and frosts of the night following. Were they in a state of perspiration then? No. Well, what were they out at the watering-places for? Thousands and millions of little larval mouths "watering" at home, for water to mix with honey and pollen so that these little larval mouths might have chyle to eat that they might grow into imago bees. Can it be that Prof. Cook never observed bees at watering-places at such times as this?

Now let us change the time of year. Several years of my bee-keeping life have given very hot weather during September and October, after brood-rearing had nearly or quite ceast, and during these months with this extreme heat often came a great gathering of "honey-dew," so that the bees were as active and the weather just as hot as it ever is during basswood harvest, the mercury standing up in the 90's, and the bees rushing pell-mell in and out at the entrance every day for a few days, while the heat and dew lasted, but thus far neither lasted long enough (or else it was out of season) to start brood-rearing to any extent. Did I find any bees at the watering-places "slaking their thirst," or getting water to take the place of that thrown off by perspiration? No, not a bee there, or very few at most. Why? Because there were no larval mouths in the hive calling for water in the chyle not being prepared.

Once more, and I will leave other facts to rest till Prof. Cook meets these given. When we handle combs of brood, the larvæ in which are nearly ready to seal, or have just been sealed, are they heavy or light? I have weighed combs of brood, the central portion of which was just sealed, and the remainder nearly ready to seal, which weighed 4½ pounds, while the same frame when full of sealed honey weighed six pounds, and when empty ¾ of a pound. Where and from what source did this weight mainly come? Was it the honey the larvæ contained? Was it the pollen they had eaten? Prof. Cook knows, and the readers in general know, that said weight was *water*, to nearly or quite as great an extent as, Prof. Cook tells us in his article on page 482, enters into the composition of fruits and vegetables. Where did this water come from? Some from the honey in their food, some from the pollen which entered into the chyle formed, but mostly from the "rill" or watering-place which the bees visited to secure the necessary water for the chyle out of which the larval bee grew from the tiniest speck scarcely discernible to the naked eye, until each comb full weighed nearly or quite four pounds, 90 percent of which was water.

With six combs of brood to the hive we have an approximate weight equal to about 20 pounds, or 2½ gallons of water; and yet Prof. Cook would have us believe, "I doubt then if it is correct to say that bees need water to aid in brood-rearing." Oh, Professor!

Onondaga, Co., N. Y.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Colonies Building Drone-Comb.

I have two colonies with queens hatcht last spring. For awhile they built nice worker-comb and I supposed they would do so all summer, but since they became populous they have been determined to build drone-comb. Will it do to cut out the drone-comb, and after pinching out the larvæ, put the new drone-comb into sections for the bees to fill with honey? BEGINNER.

ANSWER.—Yes, but it will be a tedious job to pick out the larvæ one by one. Sprinkle fine salt on them, and the bees will clean them out, but you must be sure to miss none. If left out of the hive a few days, the bees will clean them out when given to them. But it will do little good to cut drone-comb out of the brood-combs, unless you fill in the places with patches of worker-comb or foundation, for if left to themselves the bees will promptly fill up again with drone-comb.

Clovers for Tennessee.

1. I want to sow some kind of clover this fall that will bloom next summer for my bees, and for hay. Will either one of the sweet variety bloom next summer, if sown this fall or next spring?

2. Will alsike or alfalfa clover do as the above? I mean for Tennessee, as I want to buy the right kind.

3. Will any of the above-named clovers be a torment to the farm, as it has been said of the sweet variety? TENNESSEE.

ANSWERS.—1. Neither white nor yellow sweet clover will bloom next summer if the seed is sown next spring, but either will bloom next summer if sown so as to start growth this fall.

2. Alfalfa will not bloom the first year, but alsike will.

3. Neither one of them is troublesome on cultivated ground, but sweet clover is persistent on the roadside. It is a mistake to think that sweet clover is hard to kill out on cultivated ground. It grows one year and blooms the next, and then dies out root and branch the second winter. It can be plowed under so as to prevent going to seed, and that's the end of it.

Holy Land Bees Filling the Brood-Nest, and Avoiding the Super.

1. All things equal in the spring, and allowing each colony to swarm once, which will get the more surplus comb honey, a colony of 3-banded Italians, or Holy Land bees? Are Holy Land bees very savage?

2. Would a cross between 3-banded and golden Italians be an improvement? I have heard that crosses usually are better.

3. A colony declines to go into the super, but fills the brood-nest with honey; I have furnisht a young queen, and she has scarcely any room to lay; I have no extractor, and I don't know what to do. MINNESOTA.

ANSWER.—1. Taking both kinds as the average, it might be safest to risk the Italians. Root's A B C of Bee-Culture says: "The Holy Lands seem quiet enough, and the queens are enormously prolific; but for some reason or other, at the present writing quite a number of the friends are getting rid of them, and going back to the Italians again, as more gentle."

2. A first cross is likely to show increast vigor; but without care in selection the successors of that first cross are likely to deteriorate.

3. About the easiest thing to do is to get an extractor, and you may find this a profitable investment if you have several colonies. However, it may be better to get the bees to empty the combs than to empty them yourself. Uncap the honey in the parts of the combs that you think ought to be occupied with brood. Instead of uncapping with a sharp knife, it may be still better to scratch the surface with a three-tined fork. The tines of an ordinary table-fork are too far apart for best work. Tie them together with fine wire so that the points shall be about 3-16 of an inch apart. Of course the wire must not be too close to the ends of the points, say half an inch, or more, distant. Still another way is to take a common wire hair-brush and strike repeatedly upon the cappings hard enough to pierce them. The bees will clean the honey out, giving the queen room to lay, and this also tends to have the emptied honey stored in the sections. You can aid the matter by giving a bait-section in the super, a section that is partly or wholly drawn out; a good way being to take a half-filled section from a colony storing well in the super, taking bees and all.

Tulip or Whitewood—Uniting Weak Colonies.

1. Will the tulip or whitewood tree live and thrive in northwestern Iowa?

2. I had a colony of bees in a home-made hive which in the spring showed signs of having had the bee diarrhea, and I of course had to feed them, as they did not have any honey left in the combs. They did fairly well for awhile, but were attackt by the bee-moth and became so bad that I united it with a weak after-swarm. Both swarms had queens. The swarms united quite peaceably. Is there danger of both queens getting killed? or do you think that I ought to have killed one queen? IOWA.

ANSWERS.—1. Somewhat doubtful. I made a little attempt at it without success, but possibly you might do better.

2. There is not much danger that both queens were killed. Indeed, it is a common practice to unite two colonies without paying any attention to the queens, unless there is a choice of queens, when the poorer is killed.

Please don't blame the bee-moth unjustly. The colony did not fail because the moth attackt them, but the moth attackt the colony because the bees had reacht the point of failure. If you want to bid defiance to the moth, keep all colonies strong. Even a rather weak colony will keep the moth at bay if the bees are Italian or partly Italian.

Colonies Seemingly Queenless.

I am a beginner in bee-culture, and in looking thru my 14 colonies of bees I found two colonies seemingly queenless. There were no eggs or brood in any stage. I gave them each a frame from a strong colony containing eggs and brood in all stages, and two days later I found no queen-cells. What shall I do? OREGON.

ANSWER.—The great probability is that a virgin queen was present, and most likely before this answer appears she will be laying all right. You did exactly the right thing. Of course there is a possibility that the virgin queen may have been lost later, and a week after giving the first frame of brood it may be well to give another, if you do not find the queen yet laying.

There is a possibility that the bees were hopelessly queenless, and slow about starting queen-cells, and that altho no queen-cells were started within two days, they might be started later. If the bees have not been queenless so long as to be old and reduced in strength, a continued giving of brood, especially young brood, will result successfully.

The Afterthought.

The "Old Reliable" seen thru New and Unreliable Glasses.
By E. E. HASTY, Richards, Ohio.

A NOSEY BRIDGE.

Notwithstanding the woe pronounced upon those "who do their trades forsake," I'm going to go into a new trade, to-wit, bridge-building. Think I can profitably construct a bridge out of the *noses* of those who wrote in Nos. 28 and 29. These sage lucubrations are too far after date; and the above seems to be the most practical way to catch up a little.

CRIMSON CLOVER AS A HONEY-PLANT.

That crimson clover that opens No. 30 looks familiar—and it's sad to part with so good a friend. The last two winters at this point have been bad about killing things, crimson clover included; and I sadly fear our farmers have been frightened out of sowing it—quite a calamity. Twenty bees to the square foot is almost amazing. Mr. Greiner is reliable, I believe; and no such crowd of bees would come unless there was considerable honey. Say, some of the boys where the crimson is plenty try a little rivalry with Notre Dame, and do some May extracting.

QUADRUPLE HIVES—OUT-APIARIES.

The picture on page 467 tells a plain story about the France quadruple hive. It seems rather a wonder that this hive, described long ago, has been adopted hy so few. Some of its points look quite attractive.

Have your out-apiary on a slope so one man can pull in the empty wagon from above, and the crew can run out the loaded wagon below, without bringing any horses in dangerous proximity to bees. (Better than ku-klux robes on the horses.) *Temporary* extracting-house of cheese-cloth, made up with strips of leather in at the proper places. Permanent posts and margin strips. To put up house, just drive (half way) a few wire nails thru the leathers; and pull the nails out when you fold up *a la* Arabs.

UNFINISHT SECTIONS.

Deacon reminds us once more that apiculture is a business of details. Yes, that's so, details with a spice of sharp tails sprinkled on now and then—and a few dull tales taken betimes medically. Two thousand unfinisht sections in one season! And their owner almost thinking of suicide! A familiar experience to many of the boys; but some remedy ought to have arrived before this. My system requires 200 to start out with next season (can do with 100), and I almost always wish I had more. Like the oculist who takes your eye out, and fixes it, and puts it back again, Mr. D. (having postponed suicide till another year) cuts the comb out, renovates both comb and section, and then marries the twain again with a hot case-knife. I suspect that his style of setting empty combs in a section is worth remembering and trying. Hold the comb gently against the wood, and fiddle between with a hot knife, and suddenly, all at once, the comb is fast. Page 467.

AGAINST EXTRA-CLOSE FRAME-SPACING.

Doolittle sits hard (but none too hard, I think) on extra-close spacing for frames. More fuss for yourself, less heat for the early brood, bother in exchanging frames, more danger in out-door wintering—and advantage, nobody knows what. And Mr. D. thinks that the delay necessitated by the Heddon method of transferring puts it entirely out as an early spring method. When there is no more hope of a crop from that hive, Heddon method O. K. then. Page 468.

KEEPING UNCOOKT FRUIT IN HONEY.

Mrs. Axtell years ago won her recognition as a reliable writer, and if she finds all her efforts to keep uncookt fruit in honey to be failures (others finding the same), probably we would better set that down as only practical under exceptional conditions. Page 477.

VARIOUS KINDS OF DISEASED BROOD,

Page 471 gets at distinctions which are urgently needed in pretty nearly the right way differentiation. Without this a description of diseases and things is pretty sure to mix us up in our minds. Foul brood, smell of glue; black brood, sour smell; pickled brood, no very pronounced smell (I take it). Foul brood, curiously elastic consistence; black brood, jelly-like consistence; pickled brood, neither rope nor jelly, but a watery willingness to squeeze out. But pickled brood often turns black by reason of a black fungus that attacks it. And is black brood black looking at all stages? I've forgotten, if any one ever told.

CATNIP VS. SWEET CLOVER.

Four times as much honey in catnip as in sweet clover, is the way J. L. Gandy puts it. Yum, yum! Page 474.

"AGIN" THE COTTON-WASTE SMOKER-FUEL.

How about the new smoker-fuel, page 473? Well, I think we already have propolis on our hands (both figuratively and literally), and some other dirtinesses unavoidable, and I decidedly object to importing wheel-grease from the railroads. No need of it.

IS IT A "FREE MASON" APIARY.

Wonder if I see the White apiary correctly. Do I faintly see the front of the hives markt with Free Mason signs—diamond, cross, clover leaf, double column, straddle-bug, etc.?" If it's on the "square," and within the "compass" of sweet reasonableness, he might tell us about it. Page 481.

BEESWAX—CORRECTING THE CORRECTERS.

The Chicago Record's article on beeswax was pretty full of errors; but I fear the correcters corrected too much. Locality does come in to a limited extent on beeswax. African wax is not like American, if I am right; and wax imported from Jamaica has a fine red tint, and a peculiar fragrance never found in northern samples. Dr. Miller may be right that fresh wax-scales direct from the bee are always the same tint; but my *idea* of the matter has been that some are nearly white, and some quite a bit more yellow, the exact tint depending upon how recently that individual bee has been digesting pollen to feed larvæ. How is that, ye experimenters? It is quite desirable that when experts correct the great journals they should correct correctly. Page 483.

"HOW TO GET THE MOST OUT OF YOURSELF."

This is so important a topic that I should like to see every able writer in beedom essay it—not all at once perhaps, but anon and anon. How *not to do it* is a science sadly in vogue. Old Grimes does well on it, page 484—one of the best articles he has given us. Get clear in soul. Translate "Quit your meanness" into the terms of bodily health. (But there's lots of room for others in the details of the clarification and translation.) Then feed your mind liberally, and go ahead. Especially good is the counsel to teach little children never to get into debt—then one mortgage upon the mind and leaden weight upon the soul will never hinder *them*.

MANAGING LATE SWARMS.

Not over 18 hours afterward, Doolittle says (and I guess that's an important item), give to the colony that has swarmed and been moved to a new location a virgin queen or ripe cell. The poverty of soul that accepts anything you give them will not last but a little while, and it is essential to use it before it gives place to a bumptious *esprit du corps*. Wonder if 18 hours is not a slip for 28 hours. Otherwise it would run out, and not cover the "any time during the forenoon of the next day," of which we read. Page 485.

SWARMING "A-FOOT."

The swarm of bees traveling on foot, reported on page 486, is of decided interest. I never had exactly that; but I once had a swarm that *might* have proceeded similarly had the ground been smooth and hard, and had I let them alone. A swarm in an apple-tree, with grass underneath, left for the woods. After some 20 minutes, perhaps more, they came back and alighted on the ground. It seems the queen, unknown to me, had fallen there.

RAINBOW OR CALICO-COLORED CUBAN SOIL.

No previous writer on Cuba has told us about its calico-colored soil, as I remember. To see on one acre of hillside soil white, black, brown, yellow, blue and red is quite unique. But as the Cuban bogey-man is not going to spoil our markets with floods of untarift honey, we can afford to let them have all the rainbow they want in their soil. T. B. Drury, page 491.

ROOT COMPANY'S PAGE.

SHIPPING-CASES.

Our No-Drip Cases are still in the lead. We keep constantly on hand a large assortment from 12-pound size up. We also make special sizes to order.

That Root's Cases are in demand is shown by the fact that one dealer alone has ordered 16,000 this season.

WINTER-CASES.

Our Winter-Cases are made of thin lumber dovetailed at the corners, with a telescope cover.

The cost is only 75 cents each singly, yet for convenience they are unsurpast, and only excelled by the chaff hive in the protection afforded. Don't let your bees winter-kill or spring-dwindle when you can avoid it by using our Winter-Cases.

RUBBER GLOVES.

This is the time of the year when you need gloves, for robbers are about the bees and they are harder to handle than earlier. Take comfort with a pair of our gloves.

Ladies' sizes, Nos. 6, 7, 8 and 9,	$1.35;	postage, 5c
Gents' sizes, Nos. 10, 11 and 12,	$1.45;	" 5c
Extra long driving, Nos 13, 14,	$1.70;	" 10c

Mark size of hand on sheet of paper when ordering. If you order by number, remember that in rubber you need two sizes larger than you wear in kid; i.e., if you wear No. 6 in kid you will need No. 8 rubber.

BICYCLES

In trade for honey at market prices.

Having sold a carload of bicycle crates, we took in trade a quantity of machines which, so long as they last, we will sell **AT COST.**

A $30.00 bicycle—"Pathfinder"—made by the National American Cycle Company, Akron, O., for $17.00 cash or $20.00 in trade for honey of good quality at market prices. Catalog and further particulars will be sent on application. Send a sample of your honey and we will give you price we will allow.

COMB FOUNDATION.

Not too late yet to order Comb Foundation for the fall flow. If you order Root's Weed Process you may be sure you will be pleased with the result. We keep in stock the four grades in boxes of 1, 2, 3, 5, 10 or 25 pounds.

A small order has the same attention as an order for a ton.

SPECIAL GOODS.

This is the time when you should order odd size or special goods. Our busy season is over and we can do almost any work in wood you want, either for bee-keepers or others.

We make a specialty of packing-boxes, from the size of a section-box up. Let us figure with you.

FEEDERS.

How about your winter stores? Are you sure your bees have enough? Should it be necessary to feed you can't do it easier than with our Division-Board Feeder. This is made to hang like a frame in a Langstroth hive. Price, 20 cents each, complete. Less in quantities.

Honey-Labels.

Do you use labels for your honey? Are they really ATTRACTIVE labels? If you do not you may be losing many sales because your honey lacks attractiveness. You can't expect to market your honey at the best price unless you use every care in putting it up. Send for our label catalog and see our 1, 2, and 3 color labels.

Tin Packages for Honey.

If you are one of the people who market extracted honey in small lots you will find our pails just what you want. A dozen sizes and kinds to select from. We also furnish square cans —1-quart, 2-quart; 1-gallon and 5-gallons. A single can or carload, as you wish. Write for prices.

Gleanings in Bee-Culture.

When our advertisers write us that their advertisements have paid them well, we know GLEANINGS IN BEE-CULTURE must be read by the best bee-keepers. We know, too, that GLEANINGS is appreciated, for our circulation is increasing all the time. Send 25c for a six months' trial and get A. I. R's Notes of Travel and hundreds of other interesting things.

Comb-Foundation Mills.

Perhaps you are so far from us and rates are so high that you want to make your own foundation.

Our mills are being improved constantly. If you want to purchase a foundation mill, send for package of samples showing different styles we can furnish. Send 2c stamp for these.

Bushel Boxes.

Bee-keepers are always looking for labor-saving ideas. Have you ever read our 16-page pamphlet, "Handling Farm Produce?" It is full of information and gives prices of bushel boxes and other things. Free for the asking.

HONEY-EXTRACTORS.

"**Operator No. 6** puts the honey-combs in the extractors, which is a **Cowan** 4-frame reversible, with ball-bearings and lever-brake—in short, the **best extractor on the market.**"

Extract from article of N. E. France, of Wisconsin, in June Review. No one is better qualified to judge the worth of an extractor than Mr. France. He says the ROOT COWAN IS THE BEST.

Thousands of others say so.

Glass Honey-Packages.

We have all sizes of Mason Jars with aluminum or porcelain-lined caps. Also Jelly Tumblers, two sizes; Glass Pails, four sizes; and Self-Sealing Jam Jars. Besides these we still have the four sizes square jars, which have long been on the market. Don't forget us when you need glass packages for honey.

RUBBER STAMPS.

Have you ever thought how handy it would be to use a rubber stamp to mark your honey-cases, showing the grade? Then, too, if you sell in the home market you ought to have your name on the case so it would be returned. We make stamps of all kinds for all sorts of purposes. Let us send you our rubber stamp circular.

QUEENS.

We don't say much about our queens, do we? I suppose some of our friends wonder why. Let us tell you: We began selling queens many years ago. We know all about the business from A to Z. We have the best breeding queens to be found in this country or Italy, and the best apiarist to be had. The result is our 400 colonies do not begin to furnish enough queens for our orders. Our queens are **unsurpast.**

You will find it so if you buy them.

HONEY.

We buy a number of carloads of comb and extracted honey each year. If you have secured a good crop send us your offer. You don't have to worry about the returns if you sell to us.

If you have extracted honey send sample. If you have failed to secure enough for your home market, let us supply you. We have honey engaged all over the country, and can ship direct from the producer, many times.

AGENCIES.

A list of our principal agencies will be mailed you on request. We can ship from stock such items as our regular Hives, Sections, Foundation, Extractors, etc., from these agencies.

Send your order direct to us, if you prefer, and request that we ship from nearest point, and we will do so, saving you freight charges and giving you quick delivery.

THE A. I. ROOT COMPANY, Medina, Ohio.

SWEET CLOVER

And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white)	60c	$1.00	$2.25	$4.00
Crimson Clover	70c	1.20	2.75	5.00
Alsike Clover	80c	1.50	3.50	6.50
White Clover	90c	1.70	3.75	6.50
Alfalfa Clover	80c	1.40	3.25	6.00

Prices subject to market changes.

Add 25 cents to your order, for cartage, if wanted by freight.

GEORGE W. YORK & CO.
118 Michigan Street, - CHICAGO, ILL.

BEE-SUPPLIES!

Root's Goods at Root's Prices

POUDER'S HONEY-JARS and everything used by bee-keepers. Prompt Service—low freight rate. Catalog free. **WALTER S. POUDER,**
512 Mass. Ave., INDIANAPOLIS, IND.

Please mention Bee Journal when writing.

PATENT WIRED COMB FOUNDATION

Has no Sag in Brood-Frames.

Thin Flat-Bottom Foundation

Has no Fishbone in the Surplus Honey.

Being the cleanest is usually workt the quickest of any foundation made.

J. A. VAN DEUSEN,
Sole Manufacturer,
Sprout Brook, Montgomery Co., N.Y.

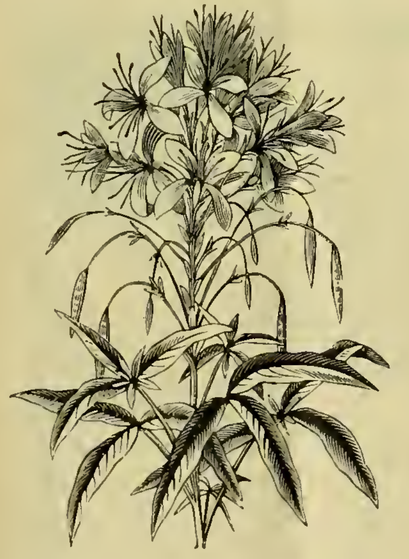
Please mention Bee Journal when writing.

Rocky Mountain Bee-Plant Seed!

(*Cleome integrifolia.*)

...FREE AS A PREMIUM...

The A B C of Bee-Culture says of it: "This is a beautiful plant for the flower-garden, to say nothing of the honey it produces. It grows



from two to three feet in hight and bears large, clusters of bright pink flowers. It grows naturally on the Rocky Mountains, and in Colorado, where it is said to furnish large quantities of honey."

We have a few pounds of this Cleome seed, and offer to mail a ¼-pound package as a premium for sending us **ONE NEW** subscriber to the American Bee Journal, with $1.00; or ¼ pound by mail for 40 cents.

GEORGE W. YORK & CO.
118 Michigan St. CHICAGO ILL.

GENERAL ITEMS

Bees Doing Well.

I have 150 colonies of bees, and they are doing well. I have taken off 2,000 pounds of honey already.

ALPHA CRANK.
Oscoda Co., Mich., Aug. 19.

Poorest Season in Ten.

I have kept bees for 10 years, and this is the poorest season I have seen. Everything has failed, even buckwheat. I will have to feed my bees.

C. G. ASCHA.
Berkshire Co., Mass., Aug. 21.

Transplanting Sweet Clover.

Having a piece of land sown to sweet clover, and wishing to double the sweet clover pasturage for my bees by the addition of more land which should be sown to sweet clover, but not wishing to wait so long for bloom from seed, I transplanted sweet clover plants last November, and any of the plants that winter-killed I replaced last March; at the same time sowing sweet clover seed between the rows of plants which were 5 feet apart each way. I thus secured early bloom, not having to wait a year for the bloom.

I am well pleased with my venture of setting out plants, and shall plant more every year. WM. H. EAGERTY.
Republic Co., Kan.

Lost Swarms.

I've just read the contribution of Mr. Harry Lathrop, on page 486, on "How a Swarm was Lost," etc. Now, here is another, and stranger still:

In the spring I helpt a neighbor clip his queens, and said to him that there would be little or no danger of losing a swarm hereafter. Some time after, while at dinner, a swarm came out of a hive of a clipt queen, and left without clustering. The owner arrived on the scene just in time to hear them say "Good-bye." He thought it very queer with a clipt queen. Curiosity incited him to examine the inside of the hive, where he found the clipt queen in peaceable possession, but the majority of the bees gone. I have a theory to account for this anomalous condition, but would like to hear if any others have known like occurrences.

WM. M. WHITNEY.
Kankakee Co., Ill., Aug. 2.

Death of Mr. R. L. Hastin.

My dear husband, R. L. Hastin, departed this life July 27, 1900. He had been a sufferer from consumption for over 10 years. At last he had a hemorrhage of the lungs and lived only about five minutes. He was snatcht away so quickly that he didn't have time to talk to us, but gave me a hope of his being saved, by clapping his hands. I also have the witness of the spirit that all is well with him.

He read the American Bee Journal with so much interest every week. He

If You Want Bees

That will just "roll" in the honey, try Moore's Strain of Italians, the result of 21 years of careful breeding. They have become noted for honey-gathering, whiteness of cappings, etc., thruout the United States and Canada.

Warranted Queens, 75c each; 6 for $4 00; 12 for $7.50. Select warranted, $1.00 each; 6 for $5.00; 12 for $9.00. Strong 3-frame Nucleus with warranted Queen, $2.50. Safe arrival and satisfaction guaranteed. Circular free.

27Dtf **J. P. MOORE** (lock box 1) **Morgan, Ky.**

Please mention Bee Journal when writing.

Italian Queens!

reared from the best 3-band honey-gatherers, by the Doolittle method. Untested, 45 cents each; 1 dozen, $4.50. Tested, 75 cents each; 2-frame Nucleus, with tested queen, $1.75 each. No disease. Safe arrival.

W. J. FOREHAND,
19D12t **FORT DEPOSIT, ALA.**

ADELS—HIGHEST GRADE ON EARTH

Three Select Breeding Queens, $2.75,
BY RETURN MAIL.
HENRY ALLEY, Wenham Mass.
33Dtf Mention the American Bee Journal.

SUPERIOR HONEY QUEENS. Bred from our superior strain of Italian Queens. Untested, each, 50 cents; ½ dozen, $2.75; tested, 75 cents; ½ dozen, $4.00. LEININGER BROS.,
33Dtf Fort Jennings, Ohio.

Please mention Bee Journal when writing.

H. G. Quirin, the Queen-Breeder,

Is as usual again on hand with his improved strain of

GOLDEN ITALIAN QUEENS.

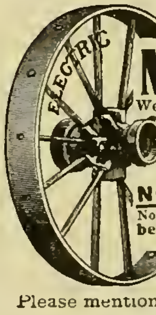
The A. I. Root Co. tell us that our queens are EXTRA FINE. We obtained thru special correspondence a breeder from Doolittle, who says, "If there is a queen in the U.S. worth $1 00, this queen is." Queens bred from her, soon as they begin to lay, $1.00 each.

Queens promptly by RETURN MAIL. We guarantee safe delivery.

Price of Queens after July 1.	1	6	12
Warranted	$ .50	$ 2.75	$ 5.00
Selected warranted	.75	4.00	7.00
Tested	1.00	5.00	9.00
Selected tested	1.50	8.00	
Extra selected tested	3.00		

Bees from these Queens all yellow to tip.

Address all orders to
H. G. QUIRIN, Parkerstown, Erie County, Ohio.
34A6t Please mention the Bee Journal.



THE WHEEL OF TIME

for all time is the

Metal Wheel.

We make them in all sizes and varieties, **TO FIT ANY AXLE.** Any height, any width of tire desired. Our wheels are either direct or stagger spoke. Can **FIT YOUR WAGON** perfectly without change.

NO BREAKING DOWN.

No drying out. No resetting tires. Cheap because they endure. Send for catalogue and prices. Free upon request.

Electric Wheel Co.
Box 16 Quincy, Ills.

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FREE FOR A MONTH....

If you are interested in Sheep in any way you cannot afford to be without the best Sheep Paper publisht in the United States.

Wool Markets and Sheep

has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.

WOOL MARKETS AND SHEEP, CHICAGO, ILL.
Please mention Bee Journal when writing.

The Bee-Keeper's
Guide
Or, Manual of the Apiary,
—BY—
PROF. A. J. COOK.

460 Pages—16th (1899) Edition—18th Thousand—$1.25 postpaid.

A description of the book here is quite unnecessary—it is simply the most complete scientific and practical bee-book publisht to-day. Fully illustrated, and all written in the most fascinating style. The author is also too well-known to the whole bee-world to require any introduction. No bee-keeper is fully equipt, or his library complete, without THE BEE-KEEPERS' GUIDE.

This 16th and latest edition of Prof. Cook's magnificent book of 460 pages, in neat and substantial cloth binding, we propose to GIVE AWAY to our present subscribers, for the work of getting NEW subscribers for the American Bee Journal.

Given for TWO New Subscribers.

The following offer is made to PRESENT subscribers only, and no premium is also given to the two NEW subscribers—simply the Bee Journal for one year:

Send us TWO NEW SUBSCRIBERS to the Bee Journal (with $2.00), and we will mail you a copy of Prof. Cook's book FREE as a premium. Prof. Cook's book alone sent for $1.25, or we club it with the Bee Journal for a year—both for only $1.75. But surely anybody can get only TWO NEW SUBSCRIBERS to the Bee Journal for a year, and thus get the book as a premium. Let everybody try for it. Will YOU have one?

GEORGE W. YORK & CO.,
118 Michigan Street, CHICAGO, ILL.

California! If you care to know of its Fruits, Flowers, Climate or Resources, send for a sample copy of California's Favorite Paper—
The Pacific Rural Press,
The leading Horticultural and Agricultural paper of the Pacific Coast. Publisht weekly, handsomely illustrated, $2.00 per annum. Sample copy free.
PACIFIC RURAL PRESS,
330 Market Street, - SAN FRANCISCO, CAL.

laid on his bed and read it the day before he died. Oftentimes he would read a piece to me, especially the poetry—it always sounded so nice about the little honey-bee, and seemed to have the spirit of God in it, directing one's thoughts above. He did want to live so badly, and keep bees to make a living for his family. He had only 9 colonies, and they are not storing much honey on account of not having anything to work on. They are also needing new hives.

On account of Mr. Hastin's long-continued sickness I am left with no home and almost nothing to go on, with three little children to bring up. I am going to do my best to get along and keep the bees. I don't understand working with them much, as he did almost all the work, with my help.

MRS. ADA HASTIN.

Dade Co., Mo., Aug. 7.

[We wish to express our own sympathy, as well as that of all bee-keepers, Mrs. Hastin, in your great loss and sorrow. We trust you will be able to care for those little children, and that the bees may do better so as to be a help to you in your struggle to get along.—EDITOR.]

On the Increase—1 to 5.

This is how it all happened: Last spring I felt in need of some soul-stirring excitement, and I got it. It was in the shape of a 4-frame nucleus with a healthy queen of "scrapping" propensities. I lodged them comfortably under my cherry-trees and awaited results.

It wasn't long before I wanted to call on them, as it were, to show them my neighborly consideration; and say, they "saw the call!" They came at me with pat hands. They thought it a bluff, and it wouldn't work. I just had

DR. PEIRO.
34 Central Music Hall, CHICAGO.

Please mention Bee Journal when writing.

The Mississippi Valley Democrat
—AND—
Journal of Agriculture,
ST. LOUIS MO.

A wide-awake, practical Western paper for wide-awake, practical Western farmers, stock-raisers, poultry people and fruit-growers, to learn the science of breeding, feeding and management. Special departments for horses, cattle, hogs, sheep, poultry and dairy. No farmer can afford to do without it.

It stands for American farmers and producers. It is the leading exponent of agriculture as a business, and at the same time the champion of the Agricultural States and the producer in politics. **Subscription, One Dollar a Year.**

☞ **Write for Sample Copy**

Golden Italian Queens.
By return mail, 75 cents each; $7 50 per dozen. They pleased every customer this year; well, why not? They are the prettiest, gentlest and best hustlers you ever saw.
—Muth's—
Square Glass Honey-Jars.
Just the package for home trade. Full line of ROOT'S GOODS at their prices.
HONEY.
Have you any FANCY WHITE comb or extracted honey for sale? Also beeswax wanted.
C. H. W. WEBER,
2146 Central Ave., Cincinnati, Ohio.
Please mention Bee Journal when writing.

BEES QUEENS
Smokers, Sections, Comb Foundation And all Apiarian Supplies cheap. Send for FREE Catalogue. E. T. FLANAGAN, Belleville, Ill.
Please mention Bee Journal when writing.

ARE YOU FULL OF GINGER? If you want health and vigor, good appetite and sound sleep, take LAXATIVE NERVO-VITAL TABLETS, the quick and safe cure for Constipation, Nervous Dyspepsia, Insomnia, Nervous Affections, the "Blues" and all attendant evils. It aids digestion, purifies the blood, strengthens the nerves, improves the appetite, induces sweet sleep, tones up the whole system and makes you a new creature. It not only makes you *feel* well, it makes you *really* well. It gives you that vim and vigor which makes life worth living.

LAXATIVE NERVO-VITAL TABLETS

It contains no narcotics nor bromides nor other injurious drugs. We give the formula with every box. You know exactly what you are taking. Originally put up for physicians' use. Ask your druggist for a FREE SAMPLE. If he hasn't it, don't take a substitute, but send us a stamp for our book on "Health" and we will send you a free sample, sufficient for you to try it and test its merits to your own satisfaction. *Isn't it worth trying free?* It positively cures. Price 10c and 25c per box. Don't delay sending.

The Modern Remedy Co., Kewanee, Ill.

to lie right down and pass. The way those bees boiled out of that 8-frame hive was great!

Well, thinks I to my lonely, there isn't room enough in that hive for so many, so I divided it in two. Got a queen for No. 2, and awaited results. Why, it didn't seem but a short time when both the colonies manifested strong predilections to swarming. So I divided them some more, then I had 3 colonies. Well, along in July, colony No. 1 got on the rampage, and I took out four full frames and made colony No. 4.

And what do you think? Along the forepart of August I got honey-hungry, and lookt into the only super I had on, but not a section filled! Then I concluded I would see what was the matter. I found out at once—about a million bees, or less, found a rent in my armor—the netting had failed to connect at the back of my head. It was their picnic, not mine.

After awhile I mustered up courage and a big smoke, and I showed the pesky things my feelings had been trifled with. I just put half of that family into an empty hive—and now have 5 good colonies, but not over 20 pounds of honey.

I don't feel real certain that I like honey, anyway!" EMM DEE.

Cook Co., Ill.

Severe Drouth.

The drouth has burned us here for this year. I have not taken over 200 pounds of honey to date, and have 80 colonies. JOHN DOTY.

Livingston Co., Mo., Aug. 13.

Getting Some Honey.

I am getting some honey. So far as I have heard I am the only bee-keeper in this locality who will get any.

E. W. HAAG.

Stark Co., Ohio, Aug. 16.

Poor Season for Queen-Rearing.

This season (up to the present time) has been very disagreeable for queen-rearing; however, in consequence thereof, I have learnt some very valuable lessons. I have come to the conclusion that it is as necessary to feed nuclei during a drouth as it is the cell-building colonies, for without feeding nuclei poor queens will be the result, the same as if poor cells were used. All my nuclei now have permanent feeders attacht, so that in the future I shall be prepared. H. G. QUIRIN.

Erie Co., Ohio, Aug. 17.

Somewhat Remarkable Season.

The season here thus far has been somewhat remarkable. It opened very flatteringly for a good crop of honey. White clover began to bloom the latter part of May, and by June 10 the pasture land and the roadsides were a mat of bloom, but scarcely a bee did I see on the bloom. The weather had changed from being quite warm to quite cool and dry, but shortly a change came. We began to have showers and warmer weather, which seemed to cause the white clover to secrete nectar. I ought to have said, the bees did a good business by way of gathering honey from the dandelion—the

SPECIAL NOTICE!

Last winter's cut of basswood is the whitest it has been for many seasons. We are now making sections out of this new stock and therefore are in a position to furnish you with the very finest quality in the market.

LEWIS WHITE-POLISHT SECTIONS

Are perfect in workmanship and color.

Orders shipt immediately upon receipt. A complete line of everything needed in the apiary. Five different styles of Bee-Hives.

Lewis Foundation Fastener simplest and best machine for the purpose. Price, ONE DOLLAR, without Lamp.

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Please mention Bee Journal when writing.

"The Prohibition Hand-Book and Voter's Manual," Size, 5x7 Inches; 50 Pages.

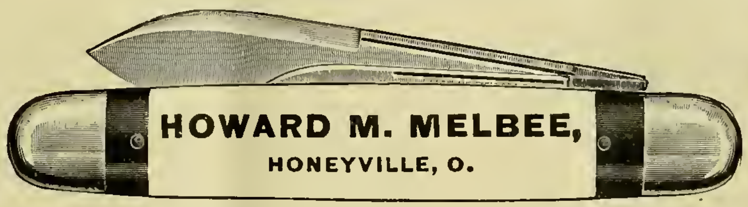
It contains Platform, Sketches, Pictures and Letters of Acceptance of Candidates and much valuable Statistical matter. Full of Facts. An Argument Settler. Pass them around. Price, 10c per copy, postpaid; $1.00 per dozen, postpaid. Send your order at once to

ALONZO E. WILSON, Room 823—153 La Salle St., Chicago, Ill.

Please mention Bee Journal when writing.

The Novelty Pocket-Knife.

Your Name and Address on one side—Three Bees on the other side.



[THIS CUT IS THE FULL SIZE OF THE KNIFE.]

Your Name on the Knife—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and in case of death, your relatives will at once be notified of the accident.

How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

How to Get this Valuable Knife.—We send it postpaid for $1.10, or give it as a Premium to the one sending us THREE NEW SUBSCRIBERS to the Bee Journal (with $3.00.) We will club the Novelty Knife and the Bee Journal for one year, both for $1.90.

GEORGE W. YORK & CO., 118 Mich. St., Chicago, Ill.

☞Please allow about two weeks for your knife order to be filled.

Best on Earth

What? Our **New Champion Winter-Cases**. And to introduce them thruout the United States and Canada we will sell them at a liberal discount until Oct. 15, 1900. Send for quotations. We are also headquarters for the NO-DRIP SHIPPING-CASES.

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Sheboygan, Wisconsin.

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Belgian Hare Guide AND DIRECTORY OF BREEDERS. Price 25c.
Inland Poultry Journal Co., Indianapolis, Ind.

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$4.00 CHICAGO TO FT. WAYNE, IND.

and return, via Nickel Plate Road, Sept. 9th to 12th inclusive, account National Encampment Union Veteran Legion. Tickets good returning to and including Sept. 18th, 1900. Three thru daily trains from Chicago at convenient hours.

Chicago Passenger Station, Van Buren St. and Pacific Ave., on Elevated Loop.

For further particulars address John Y. Calahan, General Agent, 111 Adams St., Chicago. (35)

first time for years that there was a surplus stored in the sections—usually it is fed to the young brood.

About July 1 the basswood came into bloom, and such a rush—honey came in by the wholesale. I added the third set of supers to some of the swarms that issued in May. This rush only lasted about a week, and very suddenly and abruptly closed. I think there was too much rainfall.

There was a lull for two or three weeks, then things began to liven up again. Buckwheat came into bloom, and many of the honey-producing wild flowers, and now, at this date, the bees are putting in their best licks. Goldenrod, asters and heartsease are in bloom. The weather is very warm, and we have frequent showers. To me the outlook is good for a good yield of honey from now until frost comes.

Yesterday I had a swarm issue—one of, if not the, largest for the season. There must have been at least 10 quarts of them. I gave them two sets of brood-frames, of 8 each—16 frames—and am quite certain that by the way they have gone to work, in two weeks they will have the whole batch filled with honey. L. ALLEN.

Clark Co., Wis., Aug. 9.

Honey a Failure.

The honey crop is a total failure here. I don't know of a pound of honey that has been taken. I have 17 colonies of bees, and there are 30 or 40 colonies in this vicinity. No honey has been taken by any one here. JAMES AKINS.

Putnam Co., Ind., Aug. 17.

No White Honey.

Bees are just commencing to whiten the edges of the top-bars for the first time this year. Not an ounce of white honey, so far. Unless buckwheat and fall flowers yield honey, bees must be fed for winter. CHAS. B. ALLEN.

Oswego Co., N. Y., Aug. 18.

High Grade Italian Queens

One Untested Queen.....$ .60
One Tested Queen .... .80
One Select Tested Queen 1.00
One Breeder.............. 1.50
One-Comb Nucleus....... 1.00

27 Years Rearing Queens for the Trade.
We Guarantee Safe Arrival.

J. L. STRONG,
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Italian Queens.

	1	3	6
Untested Queens................	$0.90	$2.50	$4.50
Select Untested Queens........	1.25	3.25	6.00
Tested Queens.....	1.25	3 50	7.00
Select Tested Queens	2.00	5.00	9.00

These Queens are reared from honey-gatherers. Orders filled in rotation. Nothing sent out but beautiful Queens.
27A9t D. J. BLOCHER, Pearl City, Ill.
Please mention Bee Journal when writing.

Yellow Sweet Clover Seed

WE HAVE IT AT LAST!

We have finally succeeded in getting a SMALL quantity of the seed of the YELLOW variety of sweet clover. This kind blooms from two to four weeks earlier than the common or white variety of sweet clover. It also grows much shorter, only about two feet in hight. It is as much visited by the bees as the white, and usually comes into bloom ahead of white clover and basswood. We offer the seed as a premium

A QUARTER POUND FOR SENDING ONE NEW SUBSCRIPTION.

So long as it lasts, we will mail a quarter pound of the seed to a regular paid-up subscriber who sends us ONE NEW subscriber for the American Bee Journal one year, with $1.00; or ¼ pound by mail for 30 cents.

We have been trying for years to secure this seed, and finally succeeded in getting it. It is new seed, gathered last season by an old personal friend of ours, so we know it is all right. But we have only a small supply. When nearly out we will mention it.

GEORGE W. YORK & CO.,
118 Michigan St., - CHICAGO, ILL.

Albino Queens by return mail. Untested, 75 cts.; warranted, $1.00; tested, $1.25.
12A26t J. D. GIVENS, LISBON, TEX.

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EXCURSION TO FT. WAYNE, IND., and return, via Nickel Plate Road, at rate of $4.00 for the round trip, account National Encampment Union Veteran Legion. Tickets on sale Sept. 9th to 12th inclusive, with return limit of Sept. 18th, 1900, and will be available on any of our three daily trains from Chicago, at 10:35 a.m., 2:30 p.m., and 10:30 p.m., respectively. Vestibuled sleeping-cars and first-class service in every respect.

Chicago Passenger Station, Van Buren St. and Pacific Ave., on Elevated Loop. City Ticket Office, 111 Adams St., Chicago.

Write John Y. Calahan, Gen'l Agent, 111 Adams St., Chicago, for further information, or 'phone Central 2057. (34)

BEEDOM BOILED DOWN

Making Bees Do Hot-Bed Work.—Uncle Lisha gives the following in Gleanings in Bee-Culture:

"I don't know that it is quite orthodox, but I am fond of early vegetables, and, like the son of the Emerald Isle, I find 'it is niver aisy to work hard;' and I find it a good deal of work to make a hot-bed every spring with manure and earth frozen hard, so I have just made me some boxes with old sheet-iron bottoms, and fill them with earth in the fall; and then in the spring when it is time I just take off the cushion from the top of the brood-chamber of some of my strongest hives and replace with these boxes of earth, and pack round the edges, and cover with glass. You can use, as you see, a box some 12 to 14 inches wide by 20 long. A good colony of bees will give just about the right amount of bottom heat, and the earth is about as good as a cushion to keep the bees warm, and there is no danger of too much bottom heat, as there is with a hot-bed. You can fix as many hives as necessary to supply your family with all the early plants you want, and it is but little more work to care for half a dozen such miniature hotbeds than one. And, besides, you can use old tin fruit-cans for tomato and other plants. Just put them in the fire and melt the solder and then tie them together with a string and they will hold just the right amount of earth for plants to grow in, and then you can transplant without disturbing the roots, and save time and money both."

Honey Dishonored in Europe.—The United States consul-general, James T. DuBois, at St. Gall, Switzerland, sends to the Department of State, at Washington, a lengthy communication on "Food Adulteration in Europe." Regarding honey, he says:

This delicious and, in its natural state, very wholesome breakfast dish is coming into general use on the continent of Europe; and the bees, be they never so busy, can not supply one-third of the honey that is consumed, so some one must naturally make enough to supply the deficit. Thru a series of manipulations of almost everything containing saccharine, this is now being successfully and very profitably accomplisht; and, of course, this industry flourishes best in those years when the bees have but little success in manufacturing the real article, which very often occurs.

The "dishonoring of honey," as it is called, is a growing art, and several successful establishments are now in operation, producing large quantities of this artificial honey for the market, and the product is in popular demand. The people seem to like it. It is cheap, and the sales are large. All sorts of ingredients enter into its manufacture, among which may be mentioned syrups, malt extracts of the lowest grades, meal of different kinds, and cornstarch.

From a pound of bee-honey 5 to 10 pounds of "dishonest honey" are made so successfully that it sometimes requires an expert to discover the deception.

Sweet Clover for Horses and Sheep.—Dr. Miller had just cut two tons of sweet clover hay. I should say by the looks of it it was allowed to get rather too rank and tall to make the best hay; but as an object-lesson he opened the stable door and whistled for his three horses. They evidently supposed it was feeding-time, or for some special reason they were to be fed. All three marcht into the barn, and turned their heads toward the mangers; but as nobody seemed to hinder them they marcht over to the hay-mow and pitcht into the sweet-clover hay. They first pick off the leaves and small twigs; but after they have trimmed off the stalks and can't get any more they eat up this dry brush, as it were. The doctor suggested something I never heard before—that, altho the horses would eat the green-growing clover with avidity, they *preferred* the cured hay; so he led one of them out in the yard and gave him a taste of some rank but tender shoots. Of course, he grabbed for this, but soon showed his preference for the cured hay in the barn.

Just now it occurs to me that M. M. Baldridge said *sheep* were exceedingly fond of sweet clover; and, by the way, we are just making a test of using sheep according to Vernon Burt's plan, to keep the apiary slickt up from grass and weeds, making sheep take the place of a lawn-mower. We have fenced off a part of our apiary with wire-netting, and a ewe and her lamb occupy the inclosure. About the first thing the lamb did was to pick out all the sweet clover in the inclosure. Then it reacht over the low fence for all that could be secured outside; and when the leaves and small brush were gone it began to devour the larger branches. I have seen so many cases of this kind I should like to see some cattle, horses or sheep that can not be taught to eat sweet clover.—A. I. Root in Gleanings in Bee-Culture.

Pat and the Bees.—In Charles Lover's "O'Donoghue," there occurs a remarkably rich passage illustrating the relations subsisting between an improving landlord and an untutored tenant. The agent presents the tenants to the worthy innovator, who inquires into the conditions of the grumbling and dissatisfied recipients of his favors. At length, on a tenant presenting himself whom the agent fails to recognize, the baronet turns to the figure before him, which, with face and head swollen out of all proportions, awaits his address in sullen silence.

"Who are you, my good man? What has happened to you?"

"Faix, and it's well you may ask! My own mother wouldn't know me this blessed mornin'. 'Tis all your own doin' entirely."

"My doing?" replied the astonisht baronet. "What can I have to do with the state you are in, my good man?"

"Yes, it is your doin'," answered the proprietor of the swollen head. "'Tis all your doin', and may ye well be proud of it. 'Twas them blessed bees you gev me. We brought the divils into the house last night, and where did we put them but in the pig's corner. Well, afther Katty an' the childer an' myself was a while in bed, the pig goes rootin' about the house, and he wasn't aisy till he hookt his nose in the hive and spilt the bees out about the flure; and then, when I got out of bid to let out the pig that was a-roarin' thru the house, the bees sittled down on me, an' began stingin' me, an' I jumpt into bid again with the whole of them afther me, to Katty an' the childer; and thin, what wid the bees a-buzzin' an' a-stingin' us under the clothes, out we all jumpt agin, and the divil such a night was ever spint in Ireland as we spint last night. What wid Katty an' the childer! an' the pig tarin' up an' down like mad, an' Katty wid the besom, an' myself wid the fryin'-pan flattenin' the bees again the wall till mornin', an' thin the sight we wor in the mornin—begor, it's ashamed of yourself ye ought to be."—Selected.

Nebraska.—The annual meeting of the Nebraska Bee-Keepers' Association will be held in the Honey Hall on the State Fair Grounds at Lincoln, Tuesday evening, Sept. 4th. We hope to see bee-keepers from other States present at that time, as well as our own apiarists.

E. Whitcomb, Pres.

L. D. Stilson, Sec., York, Nebr.

DITTMER'S FOUNDATION Wholesale and Retail

This foundation is made by an absolutely non-dipping process, thereby producing a perfectly clear and pliable foundation that retains the odor and color of beeswax, and is free from dirt.

Working wax into foundation for cash, a specialty. Write for samples and prices.

A full line of Supplies at the very lowest prices, and in any quantity. Best quality and prompt shipment. Send for large, illustrated catalog.

GUS. DITTMER, Augusta, Wis.

Beeswax Wanted.

Please mention Bee Journal when writing.

The Emerson Binder

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

GEORGE W YORK & CO.
118 Michigan Street, CHICAGO, ILL

THE BOXERS OF CHINA

are attempting to solve a gigantic problem, but they are going about it in the wrong way, and will never succeed. Some people, in this country, seem to think that they have as great a puzzle on their hands in selecting a location for a home. They will certainly go about it in the wrong way unless they inspect the beautiful farming country on the line of the Chicago, Milwaukee & St. Paul Railway, in Marinette County, Wisconsin, where the crops are of the best, work plenty, fine markets, excellent climate, pure, soft water; land sold cheap and on long time. Why rent a farm when you can buy one for less than you pay for rent? Address C. E. Rollins, Land Agent, 161 La Salle St., Chicago, Ill.

HONEY AND BEESWAX

MARKET QUOTATIONS.

Chicago, Aug. 24.—Fancy white comb honey is selling at 15c per pound, with No. 1 grades bringing 14@15c. There is not much demand at present, and will not be until this hot spell shall pass. Very few amber grades on the market and yet what there is does not sell. Extracted white, 7@7½c: amber, 6½@6¾c; dark, 6@6½c Beeswax, 28c. R. A. Burnett & Co.

Cincinnati, Aug. 8.—The demand for extracted honey is slow, while the shipments are many. I quote as follows: White clover, 8@8½c; Southern and amber, 6½@7c. Comb honey sells as fast as it arrives at the following prices: Fancy, 16@16½c; No. 1, 15c. Beeswax, good demand, 25c. C. H. W. Weber.

Boston, Aug. 8.—Fancy 1-pound cartons, 17c; A 1, 15@16c; No. 1, 15c; No. 2, 12@13c. Extracted honey from 7½@8½c, as to quality.

It is too early in the season and too warm for any inquiry on honey, so prices named are only nominal. The prospects in this vicinity seem to be for a light crop. Blake, Scott & Lee.

Kansas City, Aug. 20.—Very little comb or extracted honey in the market yet We quote: No. 1 white comb, 14@15c; No. 2, 13@14c; No. 1 amber, 13½@14c; dark, 11@12c. Extracted, white, 6½@7c; amber, 6@6½c; dark, 5@5½c. Beeswax, 25c.

W. R. Cromwell Produce Co.,
Successors to C. C. Clemons & Co.

Detroit, Aug. 10—Fancy white comb, 14@15c; No 1, 13@14c; no amber or dark to quote. White extracted, 6½@7c. M. H. Hunt & Son.

Buffalo, Aug. 25.—Fancy new 1-pound comb, 16@17c; choice, 14@15c; No. 2, 12@13c; No. 3, 10@11c; old, 10@14c. Fancy beeswax, 28@33c. Demand improving some. Batterson & Co.

New York, Aug. 25.—Comb honey in very good demand, and fancy white sells readily at 15 cents, and exceptional fine at 16 cents. Nos. 1 and 2 white, 13@14c; amb[illegible] 11@12c. No change in extracted. Beeswax firm at 28@28½c.

Hildreth & Segelken.

San Francisco, Aug. 8.—White comb, 12@12½c; amber, 9@11; dark, 6½@7½c. Extracted, white, 7½@7¾c; light amber 6¾@7¼c; amber, 5½@6c. Beeswax. 26@28c.

There is not much honey coming forward at present from any quarter, neither is there very brisk demand locally or for shipment at full current rates. Water-white honey is the scarcest sort, and market for this description shows the most firmness.

WANTED—HONEY AND BEESWAX.

We have a tremendous and growing trade in this line, and would like to hear from all who have such goods to sell in any part of the country, with quality, description, and lowest cash price. Thos. C. Stanley & Son, Fairfield, Ill.

WANTED COMB HONEY AND EXTRACTED HONEY. Will buy your honey, no matter what quantity. Mail sample with your price expected delivered in Cincinnati. I pay cash on delivery. C. H W. WEBER, 2146 Central Ave., Cincinnati, Ohio.

Extracted Honey Wanted

We have a demand for AMBER extracted honey. Please let us know how much you have, how put up, and cash price wanted f.o.b. your railroad station. Also mail us small sample for inspection. Address,

GEORGE W. YORK & CO.
118 Michigan Street, - CHICAGO, ILL.

Wanted To Buy Honey

What have you to offer and at what price?

33Atf ED WILKINSON, Wilton, Wis.

Please mention Bee Journal when writing

FALL SPECIALTIES

Shipping-Cases, Root's No Drip; Five-Gallon Cans for extracted honey, Danz. Cartons for comb honey. Cash or trade for beeswax. Send for catalog. M. H. Hunt & Son, Bell Branch, Mich.

Please mention Bee Journal when writing.

25 cents Cash paid for Beeswax. This is a good time to send in your Beeswax. We are paying 25 cents a pound—CASH—for best yellow, upon its receipt, or 28 cents in trade. Impure wax not taken at any price. Address as follows, very plainly,

GEORGE W. YORK & CO., 118 Michigan St., CHICAGO.

Please Mention the Bee Journal when writing Advertisers.

We have a Large Stock on hand and can ship promptly.

SEND US YOUR ORDERS FOR

Hives, Extractors

OR ANYTHING YOU WANT IN THE BEE-KEEPING LINE.

WE MAKE ONLY THE BEST.

Our Falcon Sections and New Process Foundation are ahead of everything, and cost no more than other makes. New Catalog and copy of The American Bee-Keeper free. Address,

THE W. T. FALCONER MFG. CO.,
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☞ W. M. Gerrish, East Notingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.

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☞ IF YOU WANT THE

BEE-BOOK

That covers the whole Apicultural Field more completely than any other published, send $1.25 to Prof. A. J. Cook, Claremont, Calif., for his

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Liberal Discounts to the Trade.

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Located on the Illinois Central R.R. in

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And also located on the Yazoo & Mississippi Valley R R. in the famous

YAZOO VALLEY

of Mississippi—specially adapted to the raising of

CORN AND HOGS.

Soil Richest IN THE World.

Write for Pamphlets and Maps.

E. P. SKENE, Land Commissioner,
Ill. Cent. R.R. Co., Park Row, Room 413,
24A24t CHICAGO, ILL.

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I ARISE

To say to the readers of the Bee Journal that

DOOLITTLE...

has concluded to sell QUEENS in their season during 1900, at the following prices:

1 Untested Queen	$1.00
3 Untested Queens	2.25
1 Tested Queen	1.25
3 Tested Queens	3.00
1 select tested queen	1.50
3 " " Queens	4.00
Select Tested Queen, last year's rearing	2.50
Extra selected breeding, the very best	5.00

Circular free, giving particulars regarding each class of Queens, conditions, etc. Address,

G. M. DOOLITTLE,
11A26t Borodino, Onondaga Co., N. Y.

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23rd Year Dadant's Foundation. 23rd Year

We guarantee satisfaction. ⁂

What more can anybody do? BEAUTY, PURITY, FIRMNESS, No SAGGING, No LOSS.
PATENT WEED-PROCESS SHEETING.

Why does it sell so well? ⁂

Because it has always given better satisfaction than any other.
Because in 23 years there have not been any complaints, but thousands of compliments.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

BEE-KEEPERS' SUPPLIES OF ALL KINDS.

Langstroth on the Honey-Bee, Revised

The Classic in Bee-Culture—Price, $1.25, by Mail.

Beeswax Wanted ⁂

AT ALL TIMES.

CHAS. DADANT & SON,
Hamilton, Hancock Co., Ill.

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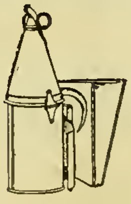
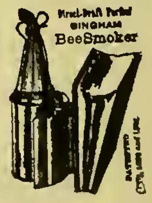
MADE TO ORDER.

Bingham Brass Smokers,





made of sheet-brass which does not rust or burn out should last a life-time. You need one, but they cost 25 cents more than tin of the same size. The little pen cut shows our brass hinge put on the three larger sizes.

No wonder Bingham's 4-inch Smoke Engine goes without puffing and does not

DROP INKY DROPS.

The perforated steel fire-grate has 381 holes to air the fuel and support the fire.

Prices: Heavy Tin Smoke Engine, four-inch Stove, per mail, $1.50; 3½-inch, $1.10; three-inch, $1.00; 2½-inch, 90 cents; two-inch, 65 cents.

BINGHAM SMOKERS

are the original, and have all the improvements, and have been the STANDARD OF EXCELLENCE for 22 years. Address, **T. F. BINGHAM, FARWELL, MICH.**

Please mention Bee Journal when writing.

QUEENS

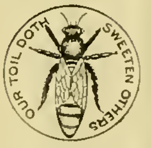
Untested Queens, Italian, 60 cents. Tested, $1.
From honey-gathering stock.
We keep in stock a full line of popular Apiarian Supplies. Catalog free.

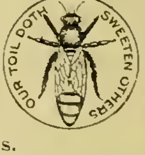
Apiaries—Glen Cove, L.I. **I. J. STRINGHAM, 105 Park Place, New York, N. Y.**

Please mention Bee Journal when writing.

Four Celluloid Queen-Buttons Free

AS A PREMIUM


OUR TOIL DOTH SWEETEN OTHERS


OUR TOIL DOTH SWEETEN OTHERS

For sending us ONE NEW SUBSCRIBER to the Bee Journal for the balance of this year, with 40 cents, we will mail you FOUR of these pretty buttons for wearing on the coat-lapel. (You can wear one and give the others to the children.) The queen has a golden tinge.

This offer is made only to our present regular subscribers.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate, it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

Prices of Buttons alone, postpaid: One button, 8 cts.; 2 buttons, 6 cts. each; 5 or more, 5 cts. each. (Stamps taken.) Address,

GEORGE W. YORK & CO., 118 Michigan St., CHICAGO.

AMERICAN BEE JOURNAL

GEORGE W. YORK,
Editor.

CHICAGO, ILL., SEPTEMBER 6, 1900.

FORTIETH YEAR.
No. 36.

WEEKLY

ERNEST R. ROOT,
President of the National Bee-Keepers' Association.

THE AMERICAN BEE JOURNAL

PUBLISHT WEEKLY BY

GEORGE W. YORK & Co.

118 Michigan St., Chicago, Ill.

[Entered at the Post-Office at Chicago as Second-Class Mail-Matter.]

IMPORTANT NOTICES:

The Subscription Price of this journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50c a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "Dec00" on your label shows that it is paid to the end of December, 1900.

Subscription Receipts—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows you that the money has been received and duly credited.

Advertising Rates will be given upon application.

Reformed Spelling.—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

The Weekly Budget

MRS. M. L. WILLIAMS, of Wadena Co., Minn., writing us Aug. 23, said:

"My bees are doing a rushing business."

****

MR. D. PATERSON, of Hardin Co., Iowa, wrote us Aug. 25, as follows:

"Bees in this part of Hardin County have done very well."

****

MR. O. P. HENDRIX, of Yazoo Co., Miss., writing us Aug. 25, said:

"This has been the poorest season for honey that I have ever seen."

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MR. R. C. AIKIN, wife and little daughter, of Colorado, were the first bee-keepers from the West to arrive for the convention last week. They will visit Mrs. Aikin's relatives in Kentucky, and then return home the last week in this month. They were all looking well, and seemed to enjoy life as they should.

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"ONE HUNDRED YEARS in the White House," opening the September Ladies' Home Journal, gives some highly interesting glimpses of the social life of the century, and of the home life of our Presidents since the time the Adamses moved into the Executive Mansion as its first occupants, in November, 1800. The "Romances of Some Southern Homes," in the same issue, pictures the most notable historic mansions of the South, and recalls the incidents which made them famous—their brave men and beautiful women. Some new anecdotes attract further interest to the beloved Phillips Brooks, as a man and a preacher. They are characteristic, and exceedingly well told. Anticipating the rather radical change that fashion has decreed in woman's attire, ten special articles are devoted to the fall and winter modes. The pictorial features of the September Journal include a page drawing of "Loiterers at the Railroad Station," as A. B. Frost sees them; "The Wonders of California Gardens," and the beauties of Yellowstone Park. There are numerous practical articles, and much else that is helpful in the departments. By the Curtis Publishing Company, Philadelphia. One dollar a year; ten cents a copy.

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REFORMED SPELLING is supposed to have had its quietus in Gleanings in Bee-Culture, but "Uncle Lisha" gets in the following skit in the last number:

"Johnnie, what is the matter now?" said Tim Fasset to his boy who was going by on his way home from school, sobbing as tho his heart would break.

"Oh!" said the little fellow, "I didn't have any luck at spelling to-day. The teacher put out *slow* to John Gilpin, and he spelled it s-l-o-w. And then she put out *mow* to Dick Carey, and he spelled it m-o-w. And then she put out *dough* to me, and I spelled it *d-o-w*, and the teacher said it wasn't right—said it was spelled *d-o-u-g-h*. I don't see why."

"Come here," said Deacon Strong; and he took the boy up in his arms and told him he spelled right—the trouble was, the English was wrong.

"I can't have you talking such nonsense as that to my children," said Miss Barton, the teacher, rather crisply.

"Why not?" said the deacon.

"Why," said Miss Barton, "because that is the way it is spelled, and that is the way our fathers and grandfathers spelled it. Words have a history, and we should lose their history if we didn't spell as our fathers did."

"Suppose," said Tim Fasset, "we were to keep bees just as our fathers did, without making any change."

"I guess the price of honey would be higher than it is now," said Charley Atkins.

"I tell you," said Deacon Strong, "if I could have my way I would have a few more letters invented to represent every sound in the English language, and I would then spell it straight, and leave the history for the dictionaries."

DR. MILLER'S

HONEY QUEENS!

One Untested Queen Free as a Premium for sending ONE New Subscriber to the American Bee Journal for one year.

Or, send us $1.50 and we will mail you a Queen and also credit your own subscription for One Year.

We have been fortunate in making an arrangement with DR. C. C. MILLER—the well-known honey-specialist—to rear queens EXCLUSIVELY FOR US DURING THE SEASON OF 1900. These Queens will be mailed in rotation, so "first come first served."

The Queens Dr. Miller will send out on our orders will be precisely the same as those he rears for his own use, so of course they will be from his best stock. His best colony in 1899 had a queen reared in 1898; May 5, 1899, it had brood in 4 frames, and he gave it at that time a frame of brood without bees. It had no other help, but May 25 a frame of brood with adhering bees was taken from it, and the same thing was repeated June 3, leaving it at that time 5 frames of brood. It stored 178 sections of honey, weighing 159 pounds (and that after July 20, in a poor season), being 2⅔ times the average yield of all his colonies. A point of importance is the fact this colony did not swarm, and an inspection every week or 10 days showed that at no time during the entire season was there even so much as an egg in a queen-cell. Dr. Miller rears queens from this one.

The demand nowadays is for BEES THAT GET THE HONEY when there is any to get, and Dr. Miller has such bees. You will want to have a queen from his best, we are sure, even if she is not pure Italian.

Do not send any orders to Dr. Miller, as all orders MUST come thru us, according to our agreement.

Remember, send us $1.00 for ONE NEW SUBSCRIBER to the American Bee Journal for one year, and YOU will get ONE OF DR. MILLER'S UNTESTED HONEY-QUEENS FREE AS A PREMIUM. This offer is made *only* to our present regular subscribers. Orders for queens are to be filled in rotation.

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ESTABLISHT IN 1861
AMERICAN
BEE JOURNAL
THE OLDEST BEE-PAPER IN AMERICA

40th YEAR. CHICAGO, ILL., SEPTEMBER 6, 1900. No. 36.

Editorial Comments.

The Great Chicago Convention is over. It exceeded any former meeting in attendance, there being at one evening session fully 350. The following were elected as officers and executive committee :

President—Ernest R. Root, of Ohio.
Vice-President—R. C. Aikin, of Colorado.
Secretary—Dr. A. B. Mason, of Ohio.

All being well, we fully expect to begin publishing the report next week. It will likely be the fullest and best ever publisht of a national convention of bee-keepers.

Extracted vs. Comb Honey.—In browsing around for good things in the bee-keeping press to dish up for the readers of the Progressive Bee-Keeper, Somnambulist presents this item from the pen of C. A. Hatch, in the Bee-Keepers' Review :

> "Of course, we might produce extracted honey, but were everybody to do so there is no telling where the price would go. I know by experience in selling honey that a great many people won't use extracted honey at all. There is an attraction about nice comb honey that appeals to the eye ; and what looks pleasing, tastes good."

Then with a mischievous twinkle in his eye, Sommy places over against this statement that of another Wisconsin bee-keeper, N. E. France, in the same periodical :

> "Our home-market consumes about 10,000 to 12,000 pounds of extracted honey, and 500 pounds of comb honey per year."

The Somerfield Plan of Forming Nuclei, that is, shutting the bees in by stuffing green leaves in the entrance and leaving them to gnaw their own way out, is very highly spoken of by some. One of its advocates, however, Dr. Miller, while giving it words of praise in Gleanings in Bee-Culture, allows one to read between the lines that it has not been an unqualified success in his hands. He says :

> "I've tried Somerfield's plan of penning in nuclei with leaves to make them stay. More dead bees than desirable sometimes ; still I like the plan. It seems to work very well to free them in 24 hours ; but a good feature of the plan is that, if you forget to free them, they will free themselves."

"More dead bees than desirable sometimes" suggests a very variable quantity, and in some cases *may* mean the practical annihilation of the nucleus. Suppose two or three frames of brood with adhering bees are put in a full-sized hive, the entrance left closed by leaves plugged in, and the weather remains moderate until the bees gnaw out—the mortality would probably be little, if any, greater than if the bees were not confined. Suppose, however, that the nucleus be partitioned off into the smallest space it can occupy, and the weather is very hot, practical suffocation will take place, and the nucleus will be worthless if the entrance is so closely plugged that the bees do not force an exit for two or three days. A good deal may depend upon the manner of closing the entrance. The green leaves will shrink so as to close the entrance less tightly each day, and yet it is possible that some entrances might be so closed as to make the closing almost permanent.

All this is said with no thought of denying the value of the plan, but merely as a word of caution, and with the belief that, rightly used, the plan is a valuable contribution to practical bee-keeping.

Tenement Hives have never come into very general use, but as a rule those who use them are quite partial to them. R. F. Whiteside, of Ontario, Canada, sends a description of his, which does not differ greatly from some others, and is especially pleased with the shade for the operator that is afforded by the large cover when it is propt up.

Bee-Poison and Honey.—Dr. F. W. Rich, of Cook Co., Ill., sends us the following item from the Medical Era, which we are pleased to reproduce here :

THE POSSIBLE ANTI-TOXIC RELATION BETWEEN BEE-POISON AND HONEY.

A remarkable result following the sting of a honey-bee is related by Dr. Stover, of Denver (Johns Hopkins' Hospital Bulletin). The case is of a young woman who was stung by a bee. The right cheek, which was the point of attack, and the whole right side of the face, were immensely swollen, and the patient felt some constitutional symptoms.

After treatment for five days the woman recovered, and on her final visit made the interesting statement that, while in the past she had never been able to eat honey, indeed, was even nauseated by the smell of it, since being stung she had developt a craving for honey, and found that she could eat it with complete satisfaction, and with no ill results. Dr. Stover asks, "Will some of the immunization experimenters throw light on this occurrence ?"

We would add the query, whether this is not, also, a demonstration of the dynamic action of apis mellifica ?

Why wouldn't it be a good idea for honey salesmen to carry a few bees along with them for immediate application when they meet persons who say they are are not able to eat honey ? It would be a cheap "remedy," and help to increase possible honey customers. Who'll be the first to inaugurate this new scheme for creating a larger demand for honey ? Of course, the salesman ought to be able to guarantee a "cure" before applying the "remedy."

Getting Bees to Clean Extracting-Combs and Sections.—This matter is discust by R. C. Aikin and G. M. Doolittle in the Progressive Bee-Keeper, and the two men are far from coinciding in their views. Mr. Aikin advises putting out a large number of combs at once and allowing the bees the freest access to them, in order to avoid having the combs torn by the bees. Mr. Doolittle says he tried the plan last fall by putting in his bee-cellar the accumulation of partly filled sections from both apiaries. The bees were admitted to them on a warm day, and as a result "fully one-fourth of the sections which the bees cleaned up that day were so despoiled, as to comb, that they were nearly or quite worthless as 'bait' sections." He prefers to put over colonies any sections or comb to be cleaned up. To prevent the bees from putting back into the same combs the honey cleaned up, he puts a sheet of enameled cloth over the frames, turning back one corner of the same so the bees can get up.

The plan advised by Mr. Aikin was first given by the late B. Taylor, and others have practiced it successfully, but according to Mr. Doolittle's experience it may not succeed under all circumstances, and beginners may do well to be a little cautious. Let the bees have access to the combs to be cleaned up somewhat late in the day, then if the combs are found to be torn it will not be likely to be so bad as if they had had the whole day for it. If the combs are found uninjured, then access may be given again to the combs.

Mr. Doolittle, however, is of the belief that it is not necessary to have sections cleaned up by the bees in the fall, differing in this from the experience of many others. He says:

"I find that where either extracting-supers or sections having comb in them (the honey being extracted from them in the fall), are placed in position for storing at the time when they should be so placed, at the *earliest beginning of the honey harvest*, the bees will clean out all of the honey in the cells to these combs, whether candied or not, before they will store any honey from the fields in them."

Carniolan Bees must differ greatly, if one is to believe the conflicting reports concerning them. As swarmers they have been reported by a large number to excel. Yet all do not agree. The same difference of opinion seems to prevail outside of the United States. The British Bee Journal has made repeated mention of their excessive swarming, Mr. Webster reporting eight swarms from one hive in a single day! Mr. Brice says: "Gentleness is the only good quality they possess. Swarming is their bane. Out they come; prime swarm, first, second, third, and fourth casts, which means good-by to any chance of surplus." Yet C. N. White says: "They are the bees for beginners, and none should start with any other kind."

Turning to Canada, the following extract from the report of the convention in the Canadian Bee Journal shows the same conflict of opinion there, as well as the high esteem in which some hold the Carniolan:

Mr. Craig—What about the swarming propensities of the Carniolan bees?

Mr. Hall—Just as good as others, and no worse.

Mr. Shaver—Mr. Hall clips the queens; I know of two different apiaries where they have them, and they complain terribly of their swarming.

Mr. Post—My experience has been almost identical with Mr. Hall's, with the exception that I have never had any poor ones. They are the best race of bees I ever handled. This was one of the poorest years we ever had—we secured between three and four tons of buckwheat honey. The whole amount was secured by the Carniolan bees placed promiscuously in the yard along with Italian-hybrids. Many of the Italians required feeding, and they were fed with combs taken from the Carniolans. They will beat any bee I ever had in wintering and in building up in the spring, and they are no more likely to swarm than any other bee, in my experience, but you will make a mistake if you put them in a small hive. Give them plenty of room. I believe in a large hive. My hive is equal to 11 Langstroth frames. Thru the forepart of the season until about June 14th, I allow the queen one top story and the bottom story—that makes 16 plus 8, equals a capacity of over 19 Langstroth frames. As soon as the queen begins to lay a little above, I raise the top story and place another one under, and place the queen-excluder below.

The Premiums offered this week are well worth working for. Look at them.

Contributed Articles.

Carniolan Bees, Freak Queens, and Plain Sections.

BY JOHN R. SCHMIDT.

CARNIOLAN bees, strange to say, do not seem to be very popular among honey-producers, but there are a few who like them, and I am one of the few. Having kept this bee for a number of years, and also the Italians, I believe I am informed well enough to say a few words about their good qualities, especially for the production of comb honey.

Carniolan bees have always been noted as of a *steel-gray* color, and for their superior swarming qualities. Now, both of these statements have always fallen thru with every Carniolan colony I ever saw or owned, and some of my queens were absolutely pure. As to the steel-gray color, I could never discover anything that resembled steel-gray within the past four or five years, either on my own bees or those that I bought. Possibly the piece of steel they were compared with was out in the rain a few days. This color question is wrong, and should be a *rusty* gray instead.

As to their swarming propensities, I do not find them more inclined to swarm than the Italians, and I keep them in Danzenbaker hives, which are not Draper barns, by a good deal.

For comb honey this bee can not be surpast. The queens begin to lay very early, and by the first of May ten Danzenbaker frames can easily be filled solid with brood if the honey in the comb was previously uncapt about once a week and placed in the center of the brood-nest where it will be consumed. I was surprised when I read a certain article in Gleanings in Bee-Culture, an extract from which reads as follows:

"About the first of May I go over the whole yard and examine each hive to see how much brood there is, and all colonies which do not have an equivalent to 2½ Gallup frames full are shut up on the frames of brood they do have," etc.

Why, if I had a colony of bees on the above date that had no more brood than in 2½ frames, I should consider such bad enough to brimstone, and our honey-flow is from sweet clover, too. When I read that article, some of my Carniolan queens had already filled 10 frames, and were filling others for weaker colonies. No wonder some beekeepers favor contraction of the brood-nest to produce comb honey!

One very favorable trait in Carniolan queens is that they do not allow themselves to be crowded in the brood-chamber like most Italians do. They simply keep everything packt with brood during the flow, and thereby everything goes into the supers, just where we want it.

As comb-builders they can not be surpast. No greasy or watery-looking sections with them. I never heard of such a thing. The wintering qualities are excellent. Last winter I doubt if 100 bees died in each colony during the whole winter; while with the Italians I had to clear the entrance three times, and scraped them out by the handful.

A first or second cross between a Carniolan queen and Italian drone produces the ideal bee for comb honey. They possess the push and energy which can not be found in any other cross. Some of these crosses are actually wonderful, and I possess one queen now—a Carniolan reared from a pure mother. This queen (the daughter) was crost with an Italian drone, and here is what she has done for me; she was reared last fall, and everything is from a record I have kept from the time she hatcht, so there is no guess-work about it:

April 28, brood in 7 frames nearly all solid; May 15, removed 3 frames of brood and adhering bees, and substituted three frames of foundation; May 25, did the same thing, and with the 6 frames removed I formed a new colony. June 12 I exchanged stands with the new colony. This old colony, after being removed from the old to the new stand, continued to work in the *supers*, and on July 15 I removed 32 pounds of comb honey in 4x5 sections. July 22 it had just finisht its second super, and the third nicely started.

Now, this is undoubtedly something extra, but I am not going to fly off the handle and advertise *superior stock* for sale. This queen is a *hybrid*, and we all know that it is exceedingly uncertain to produce like from something that is not pure. I have reared a few queens from her for my use, but do not expect to duplicate her in the least.

We now frequently hear of such queens making their appearance almost from nowhere, and from stock which is not pure, and never did anything extraordinary in the past. Bee-keepers, as a rule, understand that such *freak* queens are unfit to breed from, but during these days of the superior-stock craze—where in the last year or two nearly all the most beautiful golden bees have suddenly changed to that of superior stock—some of our brethren have lost sight of all these facts, and are breeding from such a queen as I have described, under the disguise that it will raise the standard of honey-producing qualities. They know that many queens sent out will not be what they should be. This is a very wrong thing to do, and should not be tolerated. It will do more to lower the standard than it can ever hope to raise it, and is almost as bad as adulterating honey and labeling it as such to escape the law, hoping also, thereby to raise the standard and sale of pure extracted honey.

We should not breed from anything except that which has a good, solid foundation of many years standing back of it, and then we know we will get what we are after. There are several queen-breeders who have such stock, and I hope they will be the ones who will profit by the present sensible craze for something better.

EXPERIENCE WITH PLAIN SECTIONS.

Some little time ago some one askt in the American Bee Journal whether it would be advisable to change to plain sections. In reply I beg to give my little experience of one season.

I have changed to the tall Danzenbaker sections and fence separators, using full sheets of foundation in connection with the same, and I am pleased to say I shall never regret the day I made the change. The first super taken this season had 28 sections filled solid to the wood all around, and rankt as fancy. I never before had anything to equal this, and in many cases I only received about one dozen *fancy* bee-way sections from the first super, the others being more or less unsealed. The bees were not crowded in the least, as they were working in an empty super below it when completing this one, thus showing that it is *not* necessary to crowd to get *fancy* comb honey in tall sections.

If any one is in doubt about this question, better try a super or two of tall sections with full sheets of foundation before buying anything else. My tall section honey is selling for 20 cents per section—5 cents more than I got for the 4¼ bee-way. With me I can heartily endorse all the good things that have been said about tall narrow sections.

Hamilton Co., Ohio.

The Influence of Locality in Bee-Keeping.

BY W. Z. HUTCHINSON.

THIS matter of locality and the part that it plays in bee-keeping is really becoming a chestnut; but it needs cracking just the same. Anything in the nature of a paradox, or that appears mysterious, is at once charged up to locality. In many instances the inference is correct. To illustrate:

Holy Land bees are not liked here at the North. They are great breeders. So long as there is honey in the hive they will keep on rearing brood. We don't wish any such characteristics here in the North. When the harvest is over we wish breeding to stop. We don't care to rear a horde of useless consumers. In the South, in Cuba, for instance, the harvest comes in the winter, or what corresponds to our winter, and it is very desirable that the colonies shall be populous at that season of the year. To accomplish this, Holy Land bees exactly fill the bill. Thus you see, in one locality one strain of bees is desirable, but another is not. In some other locality the conditions are reverst.

Again, here at the North, where our main harvest comes early and is of short duration, small brood-chambers are desirable. In the South, or where the harvest is prolonged thru the whole summer, large brood-nests find favor. Then there is the wintering problem that is ever with us here at the North. In the South, chaff hives, and bee-cellars, and the like, are of no interest whatever. California and Colorado have conditions and sources of honey-flow that are entirely different from those of Michigan and Canada. The fundamental principles of bee-keeping are ever the same, but localities differ; they differ so much that a bee-keeper going from Michigan to Cuba, or to Texas, and attempting to carry on bee-keeping as he has done at his old home, would be sadly "left."

In reading our bee-journals, and attempting to profit by the advice they contain, we should ever have in mind this matter of locality. The experience, and views and advice of Mr. Doolittle may be all right for New York, and Ontario and Michigan, and some of it may be all right for Florida or California, but not all of it.

Then there is another point: the more thoroly a man understands his own locality, the greater his chances for success. He must know at exactly what time in the season to look for the different honey-flows. It may seem incredible, but I have had bee-keepers come to me to buy sections, come in great haste, and a heart filled with enthusiasm, the bees were "just piling in the honey, and the owners had only discovered it, and the *basswood honey harvest was coming to a close*. These men did not even know *where* the honey was coming from. Of course, this is an extreme case, but not so very extreme as some may think.

A man ought to know what strain of bees to keep; what size and kind of hive and fixtures to use; when to take his bees from the cellar (if he winters them in the cellar); whether to protect them on the summer stands when he takes them out, and, if so, in what manner; whether to feed in the spring; whether to unite before the harvest; whether to shade his hives and how; when to put on the sections; and so on thru the whole season he should know, as nearly as it is possible for him to learn, exactly what is best adapted to his particular locality. In reading articles in the bee-journals he should always ask himself: "Does this apply to my locality?"—Bee-Keepers' Review.

Genesee Co., Mich.

Are Queens Confined in Cages Short-Lived?—Queenless Colonies.

BY HENRY ALLEY.

SEVERAL things have been said in the bee-papers the past few months that have attracted my attention. One statement, made by some one, that young queens confined in cages are short-lived; that for every day so confined the life of the queen is shortened three months. Now, it would be interesting to know just how this conclusion was reacht. It seems to me it would require much time and careful experiment to test this thing. I do not believe any one has reacht these conclusions except by guessing at it.

I have had queens live to great age. One queen lived four years and two months. One of my customers wrote me that he had one of my queens that lived six years. How long would these queens have lived had they not been confined in cages?

The course of short-lived queens is not owing to confinement in cages, but is caused by the methods used in rearing the queens. Except at swarming-time, I find that queens reared in a hive above the brood-chamber proper, are short-lived. Superior queens can be reared by almost any method at swarming-time, say from May 20 to July 10.

Owing to the fact as above stated, I long ago gave up the "top story" method of rearing queens. I found that queens so reared were very inferior, and not more than 25 percent of such queens were of any value.

For several years I have employed a method for producing queen-cells that give me the finest, most prolific and long-lived queens. This process has not been given in any of the bee-papers. Later on I shall attempt to describe it so that all will understand it. Talk about getting cell-cups by the bushel! Well, by my method I can get them by the thousands, and they are all made by the bees—no artificial work about them. I never have found it necessary to make artificial cell-cups, nor to transfer larvæ to cell-cups. I furnish the bees with eggs, and they do the rest, and all is done in a natural way, and the result is queens that give perfect satisfaction. They are large, well-developt, and many of the queens are superior to those reared under the swarming impulse.

I made this statement in the bee-papers several years ago. Editor Hutchinson thought I could rear just as good queens artificially as are reared under the swarming-fever, but not better. I am ready to back up this statement by sending one dozen queens to any prominent bee-keeper, and put them against the same number of those reared at swarming-time. If mine do not prove to be the better queens, I will so acknowledge it.

There are certain principles that must be followed in rearing queens. A few, half-starved bees will not rear good queens. Large colonies of bees should be used in cell-building, and the bees should be put in condition for such work several days before they are set to cell-building, by feeding, unless there is a natural flow of nectar.

One more point I wish to touch upon: A man ordered a queen from me, but before I could fill the order, in fact, the next mail, brought a countermand. The man said that he wanted the queen for a colony that had swarmed. But after he ordered the queen some one had said in the American Bee Journal that "he did not approve of requeening at such a time!" Is it better to have colonies queenless than to have them all supplied with queens? The good bee-keeper will never permit a colony to go queenless any longer than is actually necessary. No queenless colonies are allowed in my yard over three days at any one time. I have always made it a point in cases of swarming to remove the queen-cells and introduce a queen three days after the swarm issued. 'Tis the only proper way to manage an apiary.

Queenless colonies are like lame horses standing in a stable—you have the horses, but what are they worth for any practical use? Keep all colonies supplied with good queens, then your apiary is always in condition for business.

A Review of Bee-Books—"Langstroth Revised."

BY PROF. A. J. COOK.

(Continued from page 550.)

I WAS pleased to read on page 18, as follows: "A glance at these figures is enough to convince any intelligent horticulturist of the truth of Aristotle's remark, made more than two thousand years ago, that bees hurt no kind of sound fruit, but wasps and hornets are very destructive to them." Strange that a truth promulgated so long ago should have failed to win credence even in our day.

On page 27, in discussing the digestion, in the second and third paragraphs, it is evident that the recent views of digestion are not well understood. It is doubtful if it is wise to use the words chyme and chyle at all in discussing this subject. Again, on the next page, the Malpighian tubes are referred to as glands. True, in the past they have been thought to act as hepatic organs, but now we are pretty certain that they are renal in their function.

In speaking of the heart, on page 30, Cheshire is quoted as stating that the blood soaks thru the body. Surely, this is a very strange and misleading expression.

On pages 61 and 62, Mr. Root is quoted favorably as expressing the view that smaller cells promote the fecundation in the egg-laying of the queen. Mr. Dadant further adds that he believes the queen finds it pleasanter to lay the impregnated egg, and so generally deposits worker-eggs. I doubt both these propositions. I have often seen worker-eggs in cells too shallow to compass the abdomen, and I believe the queen works intelligently, and lays the eggs to suit the needs of the colony. I believe this is much more in harmony with the animal economy generally.

On page 63 the well-proved fact is given that chilling the queen will often result in producing a drone-layer. This is further proof that drones come from unimpregnated eggs.

In speaking of aphid honey-dew, the author states that the bees prefer the "true honey-dew or exudation of the leaves, and adds that he has seen them gathering both from the same trees at the same time. This is on page 117. I am sure that bees prefer nothing to some aphid honey-dew, and wisely, too, as the nectar is often very excellent. I am very skeptical regarding this honey-dew from the leaves—Mr. Dadant's "true honey-dew." I am seeking hard, but vainly, in its pursuit.

It is strange that Mr. Dadant objects to clipping the wings of the queen. Tho I believe Mr. Heddon was, or is, likeminded. Mr. Dadant, as a producer of extracted honey, and as one who uses very large hives, may have so little swarming that this may color his opinions and practice.

On page 284, it is stated that when the Italians are irritated they are very cross. I have not noticed that this was more true of them than of others. I prefer the Italians to any bees that I ever handled, on the score of amiability, every time.

On page 384, viper's bugloss, Echium vulgare, is clast with Canada thistle as a plant hard to get rid of. I do not think that this is true. I have not so observed.

Mr. Dadant, on page 406, gives 50 pounds of honey as the average per colony per year. This is founded on an experience of 20 years. Surely, this is very valuable experience.

On page 413, the practice of "reversing" is discouraged. The danger of leaking of honey and of taking too much out is emphasized. It is stated that the practice is abandoned in France, where it was formerly in vogue.

Mr. Dadant is a strong advocate of the production of extracted honey, and gives his reasons in his usual vigorous style, on page 431. Every bee-keeper should read the pages and study the reasons. He also prefers half-frames for extracting. It is to be remembered that he uses very large brood-frames.

I think that Mr. Dadant would hardly say now, as he does on page 443, that the automatic reversing extractor "has not been sufficiently tried to be proclaimed decidedly superior."

The bee-moth is referred to on page 458 as Tinea mellonella. It has long been known to science as Galleria mellonella. The clothes moths, of which there are several species, belong to the genus Tinea. These belong to a different family, even from that of the bee-moth.

The idea given on page 475, that bees are swallowed so quickly by toad and bird that they do not thrust out their stings, is certainly not true of the toad, as I have found the stings of the bees swallowed as many as five at once in the throat of the toad that did the swallowing. I doubt if it is true of the kingbird. Who will be the first one to find out the exact truth in this last case?

Mr. Dadant expresses the opinion, on page 481, that it is cold air that causes extracted honey to granulate. We know of a certainty that cold favors granulation. The fact that sealed liquid honey and comb honey is so slow to granulate would lend favor to the statement. We know that honey is made up of two kinds of sugar—dextrose and levulose. The first is quick to crystallize, while the latter is very slow to do so. I presume that the varying amounts of these two kinds of sugars will often explain the differences that we may observe in the granulation of honey.

The author, on page 482, discusses coarse and fine granulation. He thinks that the kind of granulation or size of crystals is due to the kind of honey. Is it not true here, as it is in all crystallization, that slowly formed crystals are large, while those that form quickly are small? Would it not be true, then, that cold weather, or a preponderance of dextrose in the honey, would favor fine granulation? Mr. Dadant adds that in France the fine granulated honey is held in higher esteem, and he thinks with reason, as he says that it keeps better.

In closing this review of this admirable work, I wish again to apologize for the criticisms. The points criticized are mosly of small importance, and the errors, if such they be, are of no great import, and many of them are such as would easily creep into any such work. I feel assured that the bee-keeper can not read too widely of the matters obtaining to his business. I can heartily recommend that among the books which he should prize for his study, may well be found "Dadant's Langstroth." Certainly, all those who are to engage in the production of extracted honey, in the manufacture of comb foundation, or in the cleansing of beeswax, will find this work invaluable.

I feel persuaded that for the average bee-keeper in the United States no hive will serve better, all points considered, than the Langstroth, yet it is quite possible that for those who are to engage exclusively or largely in producing extracted honey, a larger hive and frame may have merits worthy of consideration. I believe every bee-keeper would profit by a thoro reading of the arguments which Mr. Dadant gives in favor of such hives.

Los Angeles Co., Calif.

Shall We Work for Long-Tongued Bees or Short-Tubed Red Clover?

BY DR. C. C. MILLER.

THERE is no good reason why work should not be pusht with vigor in both directions. Suppose it should take ten years to secure the necessary increase in the length of tongue to work on ordinary red clover. It is probable that half that increase of length could be secured in much less than half the time necessary to secure the full length, for it is the extreme that costs effort. Probably in the first year could be gained as much as in the succeeding nine years, or, in other words, if the desired length could be obtained in ten years, half that length could be obtained in one year. Suppose, also, that ten years should be necessary to secure red-clover tubes sufficiently shortened for ordinary bees to work on, we might expect to secure half that shortening in one year. Now, instead of spending ten years upon one to the neglect of the other, put in the one year on both, and bring together your bees with tongues half lengthened, and your clover with tubes half shortened, and—*there you are.*

Of course, nothing is certain in any of these estimates. It might take twice ten years, or it might take only half of ten years to reach the desired result by working in only one direction. It might take more than one-tenth the time to reach the half-way point in either direction, or it might take less. The only point I am urging is that, if we modify both tongues and tubes, we *must* reach the point of getting red-clover honey in half the time we could get it by working alone at either tongues or tubes; and I suspect that one-tenth of the time comes nearer the truth than one-half. So, Mr. Editor, don't let up in your enthusiasm for long tongues, and get switcht off on the track of short tubes, but run the two parallel.

Another point I want to urge with equal emphasis—yes, with even *greater* emphasis. It is that this is to be the work of *all* rather than of a few. I do not undervalue the work of our scientists and our experiment stations. Blessings on them for what they have done and are doing. But this is a work in which the multitude can join. You have struck the right chord, Mr. Editor, in saying, "In the meantime I hope our bee-keepers will be on the watch for red-clover heads with short tubes."

As to both tongues and tubes, it is a matter rather more of finding than of making. The father of a lost child may die of old age before finding it if the search is left to him alone; but if all the world joins in the search he will soon have the child in his arms. In the matter of establishing a strain of short-tubed clover, the very first move is to find a plant with tubes at least a little shorter than those of its neighbors. Manifestly, two men on the watch will be more likely to succeed in finding this than one alone. A thousand giving a little attention to the matter will be better than one man spending the whole time in the search. Remember that variations in plants are things of freak. Florists secure new varieties of flowers by looking out for these freaks. A rose-plant, for example, will throw out a branch having roses different from the rest of the bush in some way, and this is called a sport. Or, the flowers may be the same, with a difference in growth of stock. Catherine Mermet is a popular pink tea-rose. One day a branch on a bush of that kind was noticed to bear roses that were pure white. Slips were taken from it and propagated, and now we find in all the catalogs "The Bride," the beautiful sport from Catherine Mermet. Agrippina is a Bengal rose bearing crimson roses in great abundance, the plant growing of usual hight. In 1858, Rev. James Sprunt found a branch of Agrippina shooting away above its fellows. Slips from this branch were taken, and now we have the climbing rose, James Sprunt.

So it is just among the possibilities—nay, even among the probabilities—that somewhere is growing to-day a sport among red-clover plants that is just what we want, and some one may find it where least expected. The point is that this thing must not be left to the scientists, but all of us common bee-keepers must have our eyes open, and no telling who will be the lucky finder. Probably, however, it will be by cultivation and selection that the goal will be reacht; yet the first step must be the finding of something at least a little out of the common. You and I can find it just as well as the experiment station—yes, more readily—for there are more eyes belonging to us, and we can plant and pick out the best. I do not mean that our experiment-station men are not better adapted to the work than are we common bee-keepers. Perhaps one of them may do more than any hundred of us. They are trained for the work. But there are thousands of us; and as this is largely a matter of finding, numbers count.

What applies to clover applies also to bees. Differences in length of tongue exist now, and it will be easier to find the longest tongue if many engage in the search. If I understand the matter correctly, glossometers are constructed that are not expensive, and it requires no special skill to operate them. One can be inclosed over a colony so that no other bees can reach it, and the depth to the liquid in the glossometer be noted. In this way all the colonies in an apiary can be noted, and those with longest tongues used as breeders. If the longest tongues are chosen each year, please tell me why constant progress will not be made by *any one.* Please bear in mind that differences in length now exist, and that variations are of constant occurrence. All we are to do is to take advantage of the differences and the variations. When some one has made a successful find, let him divide up with the rest, getting a substantial return for his dividend. Mr. Editor, please announce the price of glossometers, and let us all go at the work. At the same time let us all be on the lookout for short-tubed clover.

For our encouragement we have the fact that there have been red-clover queens and red-clover bees. In general, a little is done by bees everywhere on red clover. A little effort ought to bring a little increase in the amount of red-clover honey secured, and united effort ought to bring entire success. It would be a shame to American enterprise if, within a short time, bee-keepers of this country do not succeed in bringing together tongues and tubes so that tons of honey now wasted may be taken. Shall we all help?—Gleanings in Bee-Culture. McHenry Co., Ill.

Marketing Honey Thru Commission Men.

BY W. F. MARKS.

(Address before the New York State Association of Bee-Keepers' Societies.)

I HAVE seen it stated, and I believe with good reason, that the securing of a crop was only one-half the labor or cost. This is true in all industries. I have wondered why the time at our farmers' institutes was not divided equally between "How to Produce" and "How to Sell." I tell you we must adopt different methods of disposing of our products. It will take years to bring this about, and the agitation of the question can not begin too soon. No farmer or bee-keeper under our obsolete method of trade is receiving full value for his products.

Just let us stop and think for a minute. What other class of products is there, the bulk of which must pass thru the hands of commission men before reaching the consumer? Where are there any successful manufacturers disposing of their goods thru the commission house? Our product, thru the prevailing method of sale, is at the mercy of the most unscrupulous commission man. It is the commission man who sells the lowest who does the business, and who establishes the price of our products. The honest commission man, the one who would get full value, is not in it. He, too, is at the mercy of the most unscrupulous member of the craft; and we are no better than their slaves. I want you to understand me, and I will repeat—it is the commission man who sells the lowest who establishes the price. Stop selling thru the commission man, and then see what the dealers who will buy for cash will pay. If they can not get our goods on commission they must pay cash. Having money invested in it, then and not till then, will they try and sustain prices.

Last fall a friend, a person who buys thousands of dollars' worth of goods thru commission houses every year, told me—and he had just returned from New York City—that he was offered fine, choice apples by the commission houses at $1.00 per barrel; and that very day cold-storage dealers were paying $2.25 cash per barrel, and taking all they could get at our station to my certain knowledge. Some one will say, did they not have to compete with the commission houses? Of course they would if they sold at that time; and it is plainly to be seen that they could not have paid very much. But they hold their apples until the commission houses can get no more, then they enter the market. Had the commission houses been unable to get apples on commission at any time, would they have been selling at $1.00? It seems plain enough, and yet the same holds true in every other product.

I have askt many city dealers of whom they purchast their farm produce, and they invariably said thru commission houses, and gave for their reason that they could in that way buy cheaper than of the farmer; and I remember one instance in particular, where the dealer with a knowing wink and laughing, said he would rather let the commission men settle with the farmer, and then his conscience would be clear. Ontario Co., N. Y.

[Mr. G. M. Doolittle comments on the foregoing as follows in the American Bee-Keeper:—EDITOR.]

I have shipt my honey on commission ever since 1877, and his assertion that "our product, thru the prevailing method of sale, is at the mercy of the most unscrupulous commission man," is not the truth, by any means, according to my experience. To be sure, I have run across unscrupulous commission men, and I now know of some who will drop off honey, or any other products, at a lower price by 25 percent than the goods are really worth, or quoted at.

But I can not allow that these unscrupulous ones "who sell the lowest establish the price," for all of my experience, covering a period of 23 years, tells me that there are many commission men in the cities of Boston, New York and Philadelphia who do not even so much as "wink" at the prices made by these unscrupulous ones. Therefore, Bro. Marks' assertion that "the honest commission man—the one who would give full value, is not in it," is very far from the truth.

I could name parties handling honey in each of the cities above mentioned, who have sold my honey each year for the past 12 years at from one to three cents per pound above the prices quoted in the "Producers' Price Current," and from the same price to one and two cents above the prices quoted in our bee-papers for those same cities. Bro. Marks must have had in mind the poorest specimen of a commission man, and compared him with the best dealer when he penned those words, very much as the world takes the poorest specimen of a Christian and holds him up beside the best worldling, when Christianity is to be scoft at. Don't do it Bro. Marks; it isn't nice.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Bees Overheated in Handling.

What is the best thing to do with bees that have brood that has been overcome by heat in moving?

I moved my bees 80 miles in June, hauling them on a spring wagon. I started with 19 colonies, and 3 smothered on the way, and the brood of the others died, and also two queens. Now the bees either have the old brood, or the later brood, in the cells, and do not carry it out as I supposed they would; and I also saw a few small, white worms in the combs about a half inch long. NEBRASKA.

ANSWER.—The trouble was lack of ventilation, and perhaps lack of water. The colonies were weakened that were not killed outright, and the reason they do not carry out the dead brood as promptly as you desire is because they have too big a contract on hand for their numbers. In course of time they may get all straightened up, but you may help matters by taking from a weak colony one of its outside combs that is left uncovered and giving it to a stronger colony.

If in the whole there are more bad combs than can be covered by the bees, it may be best to remove enough so that all will be well covered, selecting the worst combs for removal, and melting them up. If the bees are gathering nothing, feeding will be a help to them in cleaning house.

A Queen Experience.

The queen sent me as a premium was a failure as a queen. She has laid a little here and there, not enough to fill a comb. She filled a small piece of drone-comb, some cells having two and three eggs to the cell; and now the bees are preparing to supersede her. They have built and have eggs in two queen-cells. I have kept bees for 20 years, and never knew them to stop superseding when matters had gone thus far. I believe if Dr. Miller knew the facts he would like to send me another one; which I will pay for if matters right themselves here. If not, I think he would not want me to. If you send me another queen send me a good one, as I would rather pay for a good one than have a poor one otherwise. INDIANA.

ANSWER.—Your letter is a fair illustration of the misunderstandings and misconceptions often entertained. You ask that if another queen be sent you she shall be a good one. No one can really tell how good a queen is until she is old enough for her force of bees to have past thru at least one honey harvest, thus generally making her a year old. The premium queens sent out lay no claim to being tested queens, but are all untested. All that is promist is that they are the daughters of choice queens, that they are all right as far as can be told from appearance, and that they are laying all right before being taken from the hive for mailing. Such a queen may have mated with a very poor drone, and in spite of her ancestry may be a poor queen. The purchaser receiving her as an untested queen takes his chances.

The queen is sometimes blamed when she is not at all at fault. From your description it is morally certain that the trouble in your colony is not with the queen. You do not say whether you have seen the queen since introducing her, but according to the testimony she never laid in the hive at all. The small piece of drone-comb filled with eggs, some cells two and three eggs to a cell, points clearly to the presence of laying workers, and you will find that all the bees produced will be drones, and no queen will ever come from either of the queen-cells. The queen was a good one so far as any one could judge from appearance, was laying well before being mailed, and even if injured in passing thru the mails so that her progeny would afterward be only drones (a thing which might possibly occur) her eggs would still be laid by preference in worker-cells and not in drone-cells. According to the testimony, however, she was killed in introducing, and laying workers are responsible for what is going on in the hive, and not the dead queen.

Colony Rearing Drones in August.

The honey crop is very poor around here this year. There is barely enough for the bees for wintering. What causes bees to rear drones at this time of the year, when there is no honey coming in? WISCONSIN.

ANSWER.—It is not always easy to give a reason for all the things that bees do. As a rule, when the honey-flow stops, drone-rearing stops. A queenless colony will continue the drones it has. If a colony has a drone-layer or laying workers, it will rear only drones. Every queen is superseded in the ordinary course of nature, the superseding generally taking place well on in the season, and a superseding colony needs drones. Sometimes, however, a normal colony rears queens when according to all rules it ought not to do so.

Wire-Fence for Bee-Yard.

Can you give any information as to the best kind of portable fence for inclosing a bee-yard—something that will turn chickens, rabbits (if necessary,) and that a hog can not get under, thru or over, and that will also turn cattle, if possible? NEW JERSEY.

ANSWER.—It's asking a good deal to ask for a fence that will do all that and still be portable, and I'm not sure whether the want can be supplied. You might try the Page woven wire fence recently advertised in these columns.

A Bunch of Beginners' Questions.

1. Are separators or fences necessary and generally used in supers when working for extracted honey?

2. Will bees build thin comb straight with only a comb or wooden guide where no starters are used?

3. Do bee-keepers ever use a full frame of foundation in either top or bottom chamber, or do they use only starters, say one or two inches wide clear across the entire length of the frame?

4. Is it best to wire the brood and extracting frames?

5. Does it pay to buy one's entire foundation for an apiary of the size of mine (40 colonies), where they have no mill of their own, and would also have to buy wax to make it, where either starters or full sheets are used?

6. Do you recommend the double brood-case used in the Heddon hive?

7. What is the difference between the Simplicity and the Langstroth hives?

8. Do you prefer the dovetail pattern?

9. Would it pay me next spring to use the combs now in my home-made box-hives, when I transfer the bees into some other movable-frame hives?

10. I have a style of hive of my own make, somewhat on the Langstroth pattern. I can move the frames in the supers but can't move those in the brood-chamber. My hives are 12 inches square in the clear, 10-inch deep brood-

chamber, and 5-inch super, and all of them now full of nice honey. Do you know of an extractor that would take so small a frame as mine? MISSISSIPPI.

ANSWERS.—1. In working for extracted honey, fences and other separators are entirely unnecessary, and probably not used by any one.

2. You cannot rely upon it.

3. A large number use full sheets. You can hardly afford to use starters such as you mention, just because such a large part of your frames would be filled with drone-comb.

4. If your extracting-frames are shallow, they may do without wiring. Even with shallow frames it may be best to use wire or foundation splints.

5. Whether you use starters or full sheets (and I couldn't easily be hired to use anything less than full sheets,) it will pay to buy your entire foundation, whether you have 10 or 100 colonies.

6. No; and yet some good bee-keepers use them.

7. The Simplicity is one form of the Langstroth hive, and the dovetailed is another. The Simplicity is of the same size and has the same frame, but is not so simple in construction, the corners being mitred together and the joints being beveled.

8. Yes; altho there is very little difference between a plain Langstroth and a dovetailed hive.

9. Yes, if straight worker-comb; and by all means if filled with brood at the time of transferring. But if you transfer 3 weeks after swarming, there will be no brood in the case.

10. Probably any extractor manufactured would take so small a frame. Each extractor has its limit as to the largeness of the frame it will take, but not as to its smallness. A frame 4 inches square can be extracted in any extractor made, but not one 4 feet square.

Virgin Queens—Putting a Nucleus in the Place of a Strong Colony.

1. Is a virgin queen an unimpregnated queen?

2. If a nucleus with queen is placed where a strong colony of bees were, will there not be danger of the strange bees not accepting the queen, since they are in a majority? WASHINGTON.

ANSWER.—1. Yes.

2. Yes, unless the strong colony was queenless. The greater the difference in numbers between the colony and the nucleus, the greater the danger. But when a colony swarms, I have many times put a weak nucleus in its place to catch the returning swarm, with no danger to the queen. I understand Mr. Doolittle to say that such queen would be killed with him, and I don't understand what should make the difference.

Thinks It a Funny Sight.

What is it that makes some of my bees act so funny, and also those of some of my neighbors? The alighting-board—especially the front part of it—and the lower part of the front board of the hive, are always covered with bees; and while they seem to stand still, they keep their bodies moving backward and forward all the time, keeping their heads close to the wood, as if rubbing the lower part of their heads. It is rather a funny sight to see those bees keeping up this peculiar motion day after day, just whole rows of them. Those colonies are in good, healthy condition, some very strong, and are storing honey. IND.

ANSWER.—This performance has been likened to raking hay, and also to rubbing on a washboard, and may be seen in any apiary, but no one seems to know why bees do it. They do it every summer, and that's all we know about it.

Overheated Bees.

The following is a case I would like solved: A nucleus was formed by taking new frames of brood from a new hive and placing in another new hive. The combs containing the brood were drawn this summer from new foundation. The brood was from a colony having a queen reared last year—an Italian from choice stock. The hive containing a frame of brood and a queen-cell was placed where it would be in the sun most of the time, the nucleus being formed about July 28th or 30th.

In a few days, when examined, many young bees were found dead in the comb, with their heads slightly protruding; a few others had succeeded in getting out of the cells, some to die and others crawling about. Still others in the cells were struggling to get out, but unable to do so, the comb *appearing* to have become slightly stiffened by heat and then cooling. If assisted by pressing back the sides of the cells, the young bees would crawl out, their bodies having a dull, blackish tint. Is this state due entirely to heat, the hive-entrance being closed tight, as the nucleus was small? or is there some disease? If so, what?

I never have known any disease to exist in the apiary except in one colony, which had an unusually large entrance all winter and spring, and, before I realized what was transpiring, had been robbed and killed by robbers until no honey remained in their combs. They then appeared to have paralysis, the queen disappeared, and the few remaining bees were allowed to shift for themselves, considerable larvæ and eggs remaining in all stages in the cells. NEBRASKA.

ANSWER.—There is no likelihood of any disease in the case. The bees were closed tight in the hive, and the excitement of the imprisonment added to the heat of the sun from the outside cookt bees and all. When forming nuclei, it is a good plan to pen the bees in the hive for a time, but great care must be taken to avoid having them overheated, especially if they stand out in the sun.

The Space Above Frames—Combs Overheated.

1. Is it preferable in dovetailed hives to use an oilcloth cover on top of the extracting-frames, thereby preventing the bees from getting above those frames? or is it better to use no cover, thus allowing the bees the ¼-inch space between the top of the frames and the hive-cover?

2. In chaff hives, or other double-walled hives, when the outer box is retained on the summer stand, should a cover be used on top of the frames, or should no cover be used, but the bees be allowed to roam at will between the outer and inner boxes?

3. What is best to do when, thru overheating, the comb breaks down in a hive? UTAH.

ANSWERS.—1. Put nothing between the top-bars and the cover when there is only ¼-inch space between.

2. Use a cover and confine the bees to their proper place.

3. The first thing to be done is to give the bees an abundant supply of fresh air, throwing cold water on the hive to cool it down. That's on the supposition that you are on hand when the trouble occurs. Generally, however, you will know about it only some time after, and then you must straighten up the combs. Some of them will be so badly broken down that they must be removed entirely, and if they are full of good brood they may be fastened in the frame the same as when transferring. Some of them will be only partially out of the frame, and by a little coaxing can be pusht back in and tied in place till the bees fasten them.

Queenie Jeanette is the title of a pretty song in sheet music size, written by J. C. Wallenmeyer, a musical bee-keeper. The regular price is 40 cents, but to close out the copies we have left, we will mail them at 20 cents each, as long as they last. Better order at once, if you want a copy of this song.

Please send us Names of Bee-Keepers who do not now get the American Bee Journal, and we will send them sample copies. Then you can very likely afterward get their subscriptions, for which work we offer valuable premiums in nearly every number of this journal. You can aid much by sending in the names and addresses when writing us on other matters.

York's Honey Calendar for 1900 is a 16-page pamphlet especially gotten up to create a demand for honey among should-be consumers. The forepart was written by Dr. C. C. Miller, and is devoted to general information concerning honey. The latter part consists of recipes for use in cooking and as a medicine. It will be found to be a very effective helper in working up a home market for honey. We furnish them, postpaid, at these prices: A sample free; 25 copies for 30 cents; 50 for 50 cents; 100 for 90 cents; 250 for $2.00; 500 for $3.50. For 25 cents extra we will print your name and address on the front page, when ordering 100 or more copies at these prices.

ROOT COMPANY'S PAGE.

SHIPPING-CASES.

Our No-Drip Cases are still in the lead. We keep constantly on hand a large assortment from 12-pound size up. We also make special sizes to order.

That Root's Cases are in demand is shown by the fact that one dealer alone has ordered 16,000 this season.

WINTER-CASES.

Our Winter-Cases are made of thin lumber dovetailed at the corners, with a telescope cover.

The cost is only 75 cents each singly, yet for convenience they are unsurpast, and only excelled by the chaff hive in the protection afforded. Don't let your bees winter-kill or spring-dwindle when you can avoid it by using our Winter-Cases.

RUBBER GLOVES.

This is the time of the year when you need gloves, for robbers are about the bees and they are harder to handle than earlier. Take comfort with a pair of our gloves.

Ladies' sizes, Nos. 6, 7, 8 and 9, $1.35; postage, 5c
Gents' sizes, Nos. 10, 11 and 12, $1.45; " 5c
Extra long driving, Nos 13, 14, $1.70; " 10c

Mark size of hand on sheet of paper when ordering. If you order by number, remember that in rubber you need two sizes larger than you wear in kid; i.e., if you wear No. 6 in kid you will need No. 8 rubber.

BICYCLES

In trade for honey at market prices.

☐ Having sold a carload of bicycle crates, we took in trade a quantity of machines which, so long as they last, we will sell **AT COST.**

A $30.00 bicycle—"Pathfinder"—made by the National American Cycle Company, Akron, O., for $17.00 cash or $20.00 in trade for honey of good quality at market prices. Catalog and further particulars will be sent on application. Send a sample of your honey and we will give you price we will allow.

COMB FOUNDATION.

Not too late yet to order Comb Foundation for the fall flow. If you order Root's Weed Process you may be sure you will be pleased with the result. We keep in stock the four grades in boxes of 1, 2, 3, 5, 10 or 25 pounds.

A small order has the same attention as an order for a ton.

SPECIAL GOODS.

This is the time when you should order odd size or special goods. Our busy season is over and we can do almost any work in wood you want, either for bee-keepers or others.

We make a specialty of packing-boxes, from the size of a section-box up. Let us figure with you.

FEEDERS.

How about your winter stores? Are you sure your bees have enough? Should it be necessary to feed you can't do it easier than with our Division-Board Feeder. This is made to hang like a frame in a Langstroth hive. Price, 20 cents each, complete. Less in quantities.

Honey-Labels.

Do you use labels for your honey? Are they really ATTRACTIVE labels? If you do not you may be losing many sales because your honey lacks attractiveness. You can't expect to market your honey at the best price unless you use every care in putting it up. Send for our label catalog and see our 1, 2, and 3 color labels.

Tin Packages for Honey.

If you are one of the people who market extracted honey in small lots you will find our pails just what you want. A dozen sizes and kinds to select from. We also furnish square cans—1-quart, 2-quart; 1-gallon and 5-gallons. A single can or carload, as you wish. Write for prices.

Gleanings in Bee-Culture.

When our advertisers write us that their advertisements have paid them well, we know GLEANINGS IN BEE-CULTURE must be read by the best bee-keepers. We know, too, that GLEANINGS is appreciated, for our circulation is increasing all the time. Send 25c for a six months' trial and get A. I. R's Notes of Travel and hundreds of other interesting things.

Comb-Foundation Mills.

Perhaps you are so far from us and rates are so high that you want to make your own foundation.

Our mills are being improved constantly. If you want to purchase a foundation mill, send for package of samples showing different styles we can furnish. Send 2c stamp for these.

Bushel Boxes.

Bee-keepers are always looking for labor-saving ideas. Have you ever read our 16-page pamphlet, "Handling Farm Produce?" It is full of information and gives prices of bushel boxes and other things. Free for the asking.

HONEY-EXTRACTORS.

"**Operator No. 6** puts the honey-combs in the extractors, which is a **Cowan** 4-frame reversible, with ball-bearings and lever-brake — in short, the **best extractor on the market.**"

Extract from article of N. E. France, of Wisconsin, in June Review. No one is better qualified to judge the worth of an extractor than Mr. France. He says the ROOT COWAN IS THE BEST.

Thousands of others say so.

Glass Honey-Packages.

We have all sizes of Mason Jars with aluminum or porcelain-lined caps. Also Jelly Tumblers, two sizes; Glass Pails, four sizes; and Self-Sealing Jam Jars. Besides these we still have the four sizes square jars, which have long been on the market. Don't forget us when you need glass packages for honey.

RUBBER STAMPS.

Have you ever thought how handy it would be to use a rubber stamp to mark your honey-cases, showing the grade? Then, too, if you sell in the home market you ought to have your name on the case so it would be returned. We make stamps of all kinds for all sorts of purposes. Let us send you our rubber stamp circular.

QUEENS.

We don't say much about our queens, do we? I suppose some of our friends wonder why. Let us tell you: We began selling queens many years ago. We know all about the business from A to Z. We have the best breeding queens to be found in this country or Italy, and the best apiarist to be had. The result is our 400 colonies do not begin to furnish enough queens for our orders. Our queens are **unsurpast.**

You will find it so if you buy them.

HONEY.

We buy a number of carloads of comb and extracted honey each year. If you have secured a good crop send us your offer. You don't have to worry about the returns if you sell to us.

If you have extracted honey send sample. If you have failed to secure enough for your home market, let us supply you. We have honey engaged all over the country, and can ship direct from the producer, many times.

AGENCIES.

A list of our principal agencies will be mailed you on request. We can ship from stock such items as our regular Hives, Sections, Foundation, Extractors, etc., from these agencies.

Send your order direct to us, if you prefer, and request that we ship from nearest point, and we will do so, saving you freight charges and giving you quick delivery.

THE A. I. ROOT COMPANY, Medina, Ohio.

SWEET CLOVER
And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white)	60c	$1.00	$2.25	$4.00
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Thin Flat-Bottom Foundation
Has no Fishbone in the Surplus Honey.
Being the cleanest is usually workt the quickest of any foundation made.
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Langstroth on... The Honey-Bee
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This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains over 500 pages, being revised by those large, practical bee-keepers, so well-known to all the readers of the American Bee Journal—Chas. Dadant & Son. Each subject is clearly and thoroly explained, so that by following the instructions of this book one cannot fail to be wonderfully helpt on the way to success with bees.

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GENERAL ITEMS

Honey a Short Crop.

The honey crop in our immediate vicinity is quite small. The season has been against us, but with a dry May and wet June there was little else to expect. There was also very little swarming, so you see we will not nearly reach Mr. Doolittle's mark of 556 pounds for one colony; if we get that from 20 we will do well. However, prospects are good for a fall crop from asters. Extracted honey sells at 10 cents a pound, and is scarce at that.
J. WILEY MOUNTJOY.
Anderson Co., Ky., Aug. 19.

Dry Season—Keeping Combs from the Moth.

The season during the honey-flow here was excessively dry, besides everything was pastured so closely. We have no marshes here that we can even expect a fall flow from, as in many localities. I began feeding my colonies to-day. They are in excellent condition, having a very fine strain.

I am not discouraged but am putting forth much energy in forming plans to keep my colonies strong and active thru the winter season. I shall procure winter-cases to put them in.

I notice in the Bee Journal some one inquiring how to keep comb from moths. I let the bees clean them out late in the fall, then put the hives away in some outhouse or left accessible to the coldest weather, and away from mice. I stack the hives with the combs spaced in them with two thicknesses of burlap between each hive, starting the burlap on the floor. I stack them as high as convenient, and cover the last hive with the burlap and lid. Should there by chance be eggs deposited in the comb by the moth, the stinging cold weather will destroy them. Doing as directed will save the young bee-keeper much perplexity. I have a lot of most beautiful brood-combs put up in this way last fall, and upon examination a few days since, I was surprised to find them in as good condition as on the day they were put in—not a sign of a web to be seen, and perfectly clean.
M. N. SIMON.
Wood Co., Ohio, Aug. 23.

Keeping Empty Combs—Introducing Queens.

During the winter of 1898 I lost 39 colonies wintered in the same cellar, and same method, as the previous winter when I lost none. After cleaning up the combs and hives as best I could in the spring, the question before the house was, How to preserve these frames of comb, pollen and honey for future use, until I could get queens, and by dividing fill up and use these combs.

I saw Frank Benton's plan in the American Bee Journal, and followed it, putting down a bottom-board upside down to make all tight, stackt up the hives (with combs in place) in 3 stacks (fitting all joints) in the corner of the

Sharples Cream Separators: Profitable Dairying

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MORTON PARK, ILL.
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Tells all about Bees in California. The yields and Price of Honey; the Pasturage and Nectar-Producing Plants; the Bee-Ranches and how they are conducted. In fact the entire field is fully covered by an expert bee-man. Besides this the paper also tells you all about California Agriculture and Horticulture. $1.00 per year; 6 months, 50 cents. Sample copies, 10 cents.
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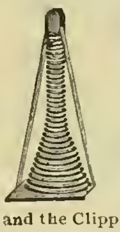

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apiary, leaving the covers and bottoms all off, and set an empty hive, with frames removed, on top of each stack. I divided 25 cents worth of bisulphide of carbon into three parts, and put into an empty peach-can which I set on top of the frames, in the empty hive. I put on the cover good and snug, and in 12 hours the thing was done (less time would do.) It's all right, and much less trouble than sulphur (but keep bisulphide away from artificial light, and don't inhale the gas that forms by its evaporation.)

The caging of queens on combs of brood and honey in a cage made 3x5 inches of screen-wire, by turning down and ravelling out the edges, as recommended by W. Z. Hutchinson last year, failed with me. The bees gnawed under the cage, hugged the queen to death, and I got $1.00 worth of experience. The best way I have tried is to make the cage large enough to hold a frame of hatching brood; hang in the center of the brood-nest, and put the queen on that one frame. Let her stay till the brood hatches, then take away the cage, and all's well.

The honey crop will be light, but fine, so far. CYRENE E. MORRIS.

Carroll Co., Iowa, Aug. 17.

Honey Crop Almost a Failure.

Honey seems to be a thing of the past with bee-keepers here, but heavy rains make prospects for a fall flow.

In my yard of 40 colonies, only 123 finisht sections of honey have been taken off, and there were probably 700 or more, ranging from $\frac{1}{4}$ to $\frac{3}{4}$ filled at the time the rain began, since which they have barely held their own, and before the rain they were not doing much. I have had a hive on a platform Fairbank's scales, but the record is so poor and broken that I hesitate to give it, but will do so anyhow: perhaps some will see a point that is obscure

DR. PEIRO.
34 Central Music Hall, CHICAGO.

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The Mississippi Valley Democrat

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Just the package for home trade. Full line of ROOT'S GOODS at their prices.

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The Modern Remedy Co., Kewanee, Ill.

to me. The hive is a Langstroth 8-frame, and at the time the swarm was put in (July 1) it contained one frame of brood and seven frames of dry combs of the previous year's building, built out from full sheets of foundation, and a super on top. July 7 the super was apparently $\frac{3}{4}$ full, and was raised up and an empty one put under it, with about $\frac{3}{4}$ sheets of foundation put in the sections, as was also the first super. At the same time the scales were set under the hive, and adjusted. I neglected to weigh the swarm, but it was an enormous one. The record of weights of hive and bees are as follows:

July 7th,	12:00 m	76½	ounces
“ 8th,	7:30 a.m.	77½	“
“ 8th,	12:00 m	76½	“
“ 8th,	8:00 p.m.	79	“
“ 9th,	7:30 a.m.	78¼	“
“ 9th,	12:00 m	77½	“
“ 9th,	8:00 p.m.	79	“
“ 10th,	7:00 a.m.	78½	“
“ 10th,	12:00 m	77¼	“
“ 10th,	7:30 p.m.	79½	“
“ 11th,	7:30 a.m.	79¼	“
“ 11th,	12:00 m	77½	“
“ 11th,	8:00 p.m.	80¼	“
“ 12th,	7:30 a.m.	79¾	“
“ 12th,	12:00 m	79	“
“ 12th,	8:30 p.m.	80¾	“
“ 13th,	7:30 a.m.	80¼	“
“ 13th,	12:00 m	79¼	“
“ 13th,	8:00 p.m.	80¾	“
“ 14th,	7:30 a.m.	80	“
“ 14th,	12:00 m	80	“
“ 21st,	7:30 a.m.	70¼	“
“ 22nd,	7:30 a.m.	70¼	“
“ 22nd,	12:00 m	69½	“
“ 22nd,	8:00 p.m.	70	“
Aug. 8th,	2:00 p.m.	67¼	“

July 21 it was found the bees had abandoned both supers, and the upper one was taken off and weighed 10 pounds. Apparently considerable of the honey had been moved below, but no work was done on the foundation of the lower super. To-day the sections are full of bees, and the foundation is slightly drawn. I think the last week's clear warm weather gave a honey-flow, and it is hoped they may build up enough for winter and store some to spare. F. W. HALL.

Sioux Co., Iowa, Aug. 8.

Long Drouth Broken.

Our long drouth has at last been broken. We have had rain every day for five days. Everything is looking fine again. HENRY ALLEY.

Essex Co., Mass., Aug. 17.

Plain Sections and Fences.

In regard to plain sections and fences. I will say that I have used the 4¼x4¼x1½ plain sections and fences three seasons, and I would not exchange them for any other kind. I think the bees will fill about 3 supers of them with honey while they are filling 2½ supers of the old slotted sections with separators. I mean strong colonies and a good flow of honey. I have used both kinds every season, but remember that is only my experience in my locality; somebody else is likely to think differently. I can clean three plain sections to two slotted ones.

We had a good flow of honey in June, lasting two or three weeks. There has not been any to amount to anything

SPECIAL NOTICE!

Last winter's cut of basswood is the whitest it has been for many seasons. We are now making sections out of this new stock and therefore are in a position to furnish you with the very finest quality in the market.

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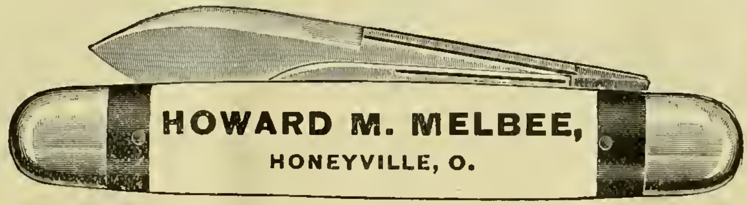
Your Name and Address on one side—Three Bees on the other side.



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The Novelty Knife is indeed a novelty The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the “Novelty” is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the “Novelties,” your POCKET-KNIFE will serve as an identifier; and in case of death, your relatives will at once be notified of the accident.

How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the “Novelty” must be seen to be appreciated.

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since. There will not be any fall honey for the fire has burnt up all the bee-pasture for miles around, and it looks pretty dark for next season. I got about 2,500 pounds of section honey.

EDWARD WILSON.
Iosco Co., Mich., Aug. 13.

BEEDOM BOILED DOWN

A Cheap but Durable Paint.

Painted hives look better. The paint keeps the nails from drawing out, and the lumber from warping. The less the lumber warps, the better the covers, supers, escape-boards, etc., fit. Some months ago Mr. F. D. Lacy sent me a description of a cheap but durable paint. It is made of three parts superfine, calcined, land-plaster, and one part of yellow ocher, or any other fine earth-paint costing from two to three cents a pound. For oil, he uses 3 quarts of kerosene, ¾ pint of linseed oil, ¼ of a pint of spirits of turpentine, and ¼ of a pound of melted beeswax. Before adding the turpentine and beeswax, the other ingredients are mixt and brought almost to the boiling point. The paint should be applied warm. The wax makes up for the lack of fixt oil. This paint is better than any mineral paint mixt with clear linseed oil. It is not very brilliant at first, but grows brighter by wear, while the ordinary paint fades by age.

Mr. Lacey recommends the addition of some coloring-matter to this kind of paint. He would use chrome green, or yellow, or Prussian blue, or something of the kind, painting some of the hives one color, and some another. I prefer to have all of the hives and supers the same color. It greatly simplifies some of the operations of the apiary. We often wish to change one hive for another, and, if it is of a different color from the first hive, the bees are confused, and try to find some other hive having a color like that of their old home.—Bee-Keepers' Review.

Drone-Comb vs. Thin Foundation.

The general belief has been, I think, that bees preferred to build drone-comb as store-comb because it took less wax to store a given amount of honey. That belief must be given up, according to Prof. Gillette's observations, which showed that it took just a fourth more wax for drone than worker-comb when each was .9 of an inch thick.—[Prof. Gillette's observation proves another thing; namely, that it does not follow that comb built entirely by the bees will have less of "gob" than comb built off from thin or extra-thin foundation. The former will necessarily be worker; the latter, probably drone; and, if so, there will be as large a chunk of wax (gob) to the pound of comb honey eaten in the one case as in the other. If it is an advantage, therefore, to use foundation at all, in that it induces the bees to build comb faster—that is, to do more work in the sections—it would seem that it would be false economy to give the bees a narrow starter, on the mistaken assumption that the resultant comb would have the less of wax to chew in the eating. This observation of Prof. Gillette was confirmed in our own experience in our own apiary.—ED.]—Gleanings in Bee-Culture.

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Is as usual again on hand with his improved strain of

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Extra selected tested	3.00		
Bees from these Queens all yellow to tip.			

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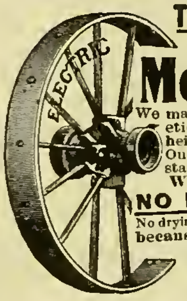

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A QUARTER POUND FOR SENDING ONE NEW SUBSCRIPTION.

So long as it lasts, we will mail a quarter pound of the seed to a regular paid-up subscriber who sends us ONE NEW subscriber for the American Bee Journal one year, with $1.00; or ¼ pound by mail for 30 cents.

We have been trying for years to secure this seed, and finally succeeded in getting it. It is new seed, gathered last season by an old personal friend of ours, so we know it is all right. But we have only a small supply. When nearly out we will mention it.

GEORGE W. YORK & CO.,
118 Michigan St., - CHICAGO, ILL.

Introducing Queens

by confining them against the side of a comb where young bees are hatching out is a good plan in theory. It is also good in practice when the one doing the practicing is an experienced, thoughtful man; but in the hands of a novice there are failures.

The plan of taking away the queen and all of the brood, thus making the colony hopelessly queenless, and then allowing the bees to release the queen by eating out the candy from the end of the cage, workt well this season until the time of the year came when robbers gave trouble. A colony robbed of its brood and queen, altho it has a caged queen, does not put up the fight that a colony will that has brood to defend. The disturbance caused by taking away the brood and giving it to other colonies, sometimes incites robbers to begin their depredations. I know that the plan of releasing a queen upon combs of just-hatching brood from which the bees have been brusht, and then keeping the hive closed a few days, is an infallible method, but it is considerable trouble, causes a loss of some brood, and may cause robbing in a time of scarcity. I would like to find some easier and better method than these for the novice, and one that is, practically, infallible. I am looking forward with considerable hopefulness to the use of tobacco-smoke.—Bee-Keepers' Review.

Feeding Bees With Squirt-Guns.

In reading Mr. Victor's article on stimulative feeding, it seems to me that to depend on the force of gravity to get the feed into the hive would be rather slow work. Why not apply muscular force, getting the same result in a fraction of the time? If he will get a common bicycle-pump, about 12 inches long by one inch in diameter, unscrew the lower end, and in its place attach a curved flat nozzle, say 2½ inches long by one inch wide, he will have a rapid-fire honey-gun that will do great execution. Dip the end of the gun into the bucket of thin syrup or honey, and then draw on the handle until the proper quantity is suckt into the gun, then fire it into the hive. If one wisht to feed exactly the same amount to each colony, marks might be made on the piston-rod showing the number of fluid ounces the gun would hold if the rod was drawn out up to that mark, etc. In practice, however, I think one would soon get used to drawing the handle out the proper distance, and would pay no attention to the marks.

Three years ago I had occasion to do a little stimulative feeding, and with an implement of this sort I could feed 100 colonies in a little less than 12 minutes. Ordinarily one might take 15 to 18 minutes to feed 100 colonies, but even then it would be rapid feeding.

Another thing, it won't be necessary to spend any time pounding on the hives to let the bees know that supper is ready. Just insert the nozzle into the entrance, give a quick push on the handle, and the ration will be left on the bottom-board, or else it will strike the back end of the hive and fly in all directions, or it will be sent kiting up among the bees, depending on the "elevation" you give the gun and the force applied to the handle. It is far ahead of any other method for *stimulative* feeding that I ever heard of.—G. F. HYDE.

[Mr. Hyde, I believe you have struck on something that is valuable and practicable. I just *know* it would work. Nearly every one has a bicycle, and can very quickly put the plan to a test. But if he has not a wheel he can buy one of these pumps at a repair-shop for about 25 cents. I am inclined to think something made specially for the purpose will be better still. I would construct a bicycle-pump with a longer barrel, without hose, and on the end have a stationary curved nozzle. If the pumps are about 18 inches long one could reach down to the pan of syrup, shove the nozzle into the entrance of the hive, and squirt the food between all the combs and all thru the hive. If this were done at night there would be no danger from robbers, and I will guarantee there is no method for stimulative feeding that would equal this for rapidity of work. I will have a pump made on purpose, and have the thing tested at once. EDITOR.—Gleanings in Bee-Culture.

Carniolan Bees; Their Appearance.

Doolittle says (page 617) that Carniolans do not differ in looks from black bees. I said that once, and a man mailed me a cage of bees he called Carniolans that were distinctly different from blacks—no yellow on them, but narrow white bands.—[The real pure Carniolans that I have seen look slightly different from the typical black bee. At one time it was claimed that the abdomens of the former were of a steel blue, but this was a mistake. Carniolans look about like blacks, except that the fuzz-rings between the segments, or scales, are of a whiter color. The bees themselves are a trifle larger, or appear to be so. Some so-called Carniolans look very much like black bees—act like them in tumbling off the combs in general confusion as they are pickt out of the hive. But we *have* had colonies of them in our apiary that behaved as quietly as Italians, and were just as gentle. As both races of bees came from Germany, it may be assumed that there are many crosses between the two. It is very difficult, therefore, to get pure Carniolans.—EDITOR.]—Gleanings in Bee-Culture.

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AND ALFALFA HONEY

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WE have been able to secure a limited quantity of WHITE ALFALFA AND BASSWOOD EXTRACTED HONEY, which we offer for the present at these prices, on board cars here in Chicago: Sample of either kind by mail, 10 cents; two or more 60-pound cans, in a box, 9 cents a pound. CASH WITH ORDER in all cases.

☞ Owing to our limited supply of these fine honeys, those desiring to order should do so promptly. Address,

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Shipping-Cases, Root's No Drip; Five-Gallon Cans for extracted honey, Danz. Cartons for comb honey. Cash or trade for beeswax. Send for catalog. M. H. Hunt & Son, Bell Branch, Mich.

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Wool Markets and Sheep
has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.
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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Aug. 24.—Fancy white comb honey is selling at 15c per pound, with No. 1 grades bringing 14@15c. There is not much demand at present, and will not be until this hot spell shall pass. Very few amber grades on the market and yet what there is does not sell. Extracted white, 7@7½c: amber, 6½@6¾c; dark, 6@6½c Beeswax, 28c. R. A. BURNETT & CO.

CINCINNATI, Aug. 8.—The demand for extracted honey is slow, while the shipments are many. I quote as follows: White clover, 8@8½c; Southern and amber, 6½@7c. Comb honey sells as fast as it arrives at the following prices: Fancy, 16@16½c; No. 1, 15c. Beeswax, good demand, 25c. C. H. W. WEBER.

BOSTON, Aug. 8.—Fancy 1-pound cartons, 17c; A 1, 15@16c; No. 1, 15c; No. 2, 12@13c. Extracted honey from 7½@8½c, as to quality.

It is too early in the season and too warm for any inquiry on honey, so prices named are only nominal. The prospects in this vicinity seem to be for a light crop. BLAKE, SCOTT & LEE.

KANSAS CITY, Aug. 30.—Fancy white comb honey firm, 12-section case, 15 cents per pound; 24-section case, 14c; No. 1 amber, 24-section case, 13@13½c. Demand good. Extracted firm at 6@8 cents, as to quality. Beeswax scarce at 35c.
W. R. CROMWELL PRODUCE CO.,
Successors to C. C. Clemons & Co.

DETROIT, Aug. 25.—Fancy white comb, 15c; No 1, 14@15c: a little buckwheat is being offered at 10@11c. Extracted, white, 7c; amber and dark, 5½@6c. Beeswax, 25@26c.
M. H. HUNT & SON.

BUFFALO, Aug. 25.—Fancy new 1-pound comb, 16@17c; choice, 14@15c; No. 2, 12@13c; No. 3, 10@11c; old, 10@14c. Fancy beeswax, 28@33c. Demand improving some. BATTERSON & CO.

NEW YORK, Aug. 25.—Comb honey in very good demand, and fancy white sells readily at 15 cents, and exceptional fine at 16 cents. Nos. 1 and 2 white, 13@14c; amber, 11@12c. No change in extracted. Beeswax firm at 28@28½c.
HILDRETH & SEGELKEN.

SAN FRANCISCO, Aug. 8.—White comb, 12@12½c; amber, 9@11; dark, 6½@7½c. Extracted, white, 7½@7¾c; light amber, 6¾@7¼c; amber, 5½@6c. Beeswax, 26@28c.

There is not much honey coming forward at present from any quarter, neither is there very brisk demand locally or for shipment at full current rates. Water-white honey is the scarcest sort, and market for this description shows the most firmness.

WANTED—HONEY AND BEESWAX.
We have a tremendous and growing trade in this line, and would like to hear from all who have such goods to sell in any part of the country, with quality, description, and lowest cash price. THOS. C. STANLEY & SON, Fairfield, Ill.

WANTED COMB HONEY AND EXTRACTED HONEY. Will buy your honey, no matter what quantity. Mail sample with your price expected delivered in Cincinnati. I pay cash on delivery. C. H. W. WEBER, 2146 Central Ave., CINCINNATI, OHIO.

Extracted Honey Wanted
We have a demand for AMBER extracted honey. Please let us know how much you have, how put up, and cash price wanted f.o.b. your railroad station. Also mail us small sample for inspection. Address,
GEORGE W. YORK & CO.
118 Michigan Street, - CHICAGO, ILL.

Wanted To Buy Honey
What have you to offer and at what price?
33Atf ED WILKINSON, Wilton, Wis.
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To say to the readers of the BEE JOURNAL that

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has concluded to sell **QUEENS** in their season during 1900, at the following prices:

1 Untested Queen .	$1.00
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1 Tested Queen	1.25
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Select Tested Queen, last year's rearing.	2.50
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Circular free, giving particulars regarding each class of Queens, conditions, etc. Address,

G. M. DOOLITTLE,
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Because in 23 years there have not been any complaints, but thousands of compliments.

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The Classic in Bee-Culture—Price, $1.25, by Mail.

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AT ALL TIMES.

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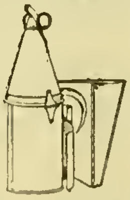

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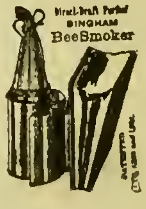

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The perforated steel fire-grate has 381 holes to air the fuel and support the fire.

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Apiaries—Glen Cove, L.I. **I. J. STRINGHAM, 105 Park Place, New York, N. Y.**

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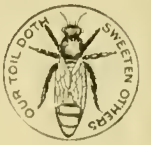

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For sending us **ONE NEW SUBSCRIBER** to the Bee Journal for the balance of this year, with **40 cents**, we will mail you **FOUR** of these pretty buttons for wearing on the coat-lapel. (You can wear one and give the others to the children.) The queen has a golden tinge.

OUR TOIL DOTH SWEETEN OTHERS

This offer is made only to our present regular subscribers.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate, it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

Prices of Buttons alone, postpaid: One button, 8 cts.; 2 buttons, 6 cts. each; 5 or more, 5 cts. each. (Stamps taken.) Address,

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AMERICAN BEE JOURNAL

GEORGE W. YORK,
Editor.

CHICAGO, ILL., SEPTEMBER 13, 1900.

FORTIETH YEAR.
No. 37.

WEEKLY

C. P. DADANT,
Director of the National Bee-Keepers' Association.
[See page 582—Letter from France.]

THE AMERICAN BEE JOURNAL

PUBLISHT WEEKLY BY

GEORGE W. YORK & CO.

118 Michigan St., Chicago, Ill.

[Entered at the Post-Office at Chicago as Second-Class Mail-Matter.]

IMPORTANT NOTICES:

The Subscription Price of this journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50c a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "Dec00" on your label shows that it is paid to the end of December, 1900.

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Advertising Rates will be given upon application.

Reformed Spelling.—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

The Weekly Budget

Mr. E. E. Hasty, of Lucas Co., Ohio, writing us Sept. 5, said:

"Some honey came at last, and may be more will yet."

* * * *

Hon. Eugene Secor attended the Farmers' National Congress at Colorado Springs, Colo., Aug. 18 to 28, and so could not also get to the Chicago convention. He reports as follows, Sept. 3:

"We had a very interesting meeting, and some delightful outings in the mountains. Last week I spent two days at the Iowa State Fair, judging honey, etc. This week I have promist to perform the same act for Minnesota. Bees are doing nothing in these parts. Poorest season for years."

* * * *

Mr. J. T. Calvert, of the A. I. Root Co., is still in Europe. In the last number of Gleanings in Bee-Culture he gave a very entertaining account of his trip so far, closing with these paragraphs referring to some people in England:

"I am particularly struck with the markt civility and gentlemanly bearing of the people. You may accost any one on the street, and always receive a courteous and civil answer. They appear not to begrudge the time taken to be civil. Indeed, they will often volunteer just the information needed at the opportune time. In the common exchanges of everyday life the deferential 'Thank you, sir,' is heard on every hand, even between servants and porters. I have not yet heard a word of profanity nor anything approaching it.

"The feeing system is quite universal, and servants expect a fee for every service rendered. No doubt this has its influence in molding their manners, and yet they are none the less courteous if they do not receive the expected fee. They are often quite ready to remind you of the fee in an adroit way."

* * * *

Mr. Thos. B. Blow, of England, called on us just after the Chicago convention. Mr. Blow, some years ago, was perhaps the most extensive bee-supply dealer in Europe. He sold out his business a few years ago, and since then he has put in most of his time in trotting around the world. He is now on his way to Japan via the Pacific Ocean. Mr. Blow is such an exceedingly pleasant gentleman to meet, that it was unfortunate that he could not have arrived in Chicago in time to attend the convention, and let the American bee-keepers see more of him.

* * * *

Mr. Geo. P. Prankard, of Bergen Co., N. J., sends us a clipping from the St. Louis Republic, which tells of a young farmer, Henry Fitch, who, while plowing with an ox team and whistling, had a swarm of bees to settle on him and the oxen. He continued to plow and whistle until he arrived near his home, the field extending up to the house. Upon arriving, his mother helpt him to hive the bees. The report said that both Mr. Fitch and the oxen lookt as if they were covered with a soft brown fur when the bees were on them. It seems he held the tails of the oxen so they should not anger the bees by switching.

So there are bee-stories as well as fish-stories.

* * * *

Our Postal Service in Wax is the heading of an interesting column article in the Kansas City Star, sent us by Mr. A. C. Thomas. It tells all about an interesting United States Government display at the Paris Exposition, covering half the floor space of a building 80 feet square. From the beginning of our wonderful postal system up to the present time—every development is illustrated in wax. No doubt Mr. C. P. Dadant will see it, and have something to say about it in these columns, as he has promist to write of other things of interest to bee-keepers.

BEST

Extracted Honey For Sale

ALL IN 60-POUND TIN CANS.

ALFALFA HONEY

This is the famous White Extracted Honey gathered in the great Alfalfa regions of the Central West. It is a splendid honey, and nearly everybody who cares to eat honey at all can't get enough of the Alfalfa extracted.

BASSWOOD HONEY

This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms in Wisconsin. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

Prices of Either Alfalfa or Basswood Honey:

A sample of either, by mail, 8 cents; samples of both, 15 cents—to pay for package and postage. By freight—one 60-pound can, 9½ cents per pound; two cans, 9 cents per pound; four or more cans, 8½ cents per pound. Cash must accompany each order. If ordering two or more cans you can have half of each kind of honey, if you so desire. This is all

ABSOLUTELY PURE BEES' HONEY,

The finest of their kinds produced in this country.

Read Dr. Miller's Testimony on Alfalfa Honey:

I've just sampled the honey you sent, and it's prime. Thank you. I feel that I'm something of a heretic, to sell several thousand pounds of honey of my own production and then buy honey of you for my own use. But however loyal one ought to be to the honey of his own region, there s no denying the fact that for use in any kind of hot drink, where one prefers the more wholesome honey to sugar, the very excellent quality of alfalfa honey I have received from you is better suited than the honeys of more markt flavor, according to my taste. C. C. MILLER.
McHenry Co., Ill.

Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

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ESTABLISHT IN 1861
AMERICAN BEE JOURNAL
THE OLDEST BEE-PAPER IN AMERICA

40th YEAR. CHICAGO, ILL., SEPTEMBER 13, 1900. No. 37.

* Editorial Comments. *

Can a Man Support a Family on Bee-Keeping Alone? is a question discust in the German Bienen-Vater by Jul. Steigel. In lower Austria, he says, no one makes bee-keeping an exclusive business, but he thinks it possible. He figures that it is a conservative estimate to say that an annual income of $200 might be had from bees, and says many at other callings work the year round for half that sum. That would seem a very small sum to one in this country, but expense of living is much higher here. As a matter of fact, very few in this country depend entirely upon the income from their bees; perhaps not so much on account of small returns, as on account of the exceeding uncertainty of the business. It is probably true, however, that the number is by no means small of those who get their chief support from bees, holding on to some other means of support to tide them over years of failure.

Buying Queens of Queen-Breeders.—Referring to the statement by Frank Coverdale, that nearly every one of 50 purchast queens fell short of common stock on the honey-gathering point, E. E. Hasty propounded the question: "Shall we 'edicate' our breeders, or stop buying queens, or what?" Replying to this in the Ruralist, J. O. Grimsley says:

> "It may be that Mr. Coverdale has been buying of unreliable queen-breeders or dealers, but I kind o' think he does not realize the fact that queens hardly ever show up as well after having gone thru the mails. The journey is evidently a drawback so far as future service is concerned. But there are queen-breeders, and there are queen-breeders."

This partly answers Mr. Hasty's question, but the importance of the question warrants fuller consideration. Besides the possibility suggested by Mr. Grimsley—buying of unreliable dealers—there is also the possibility that what Mr. Coverdale calls "common stock" may not be so very "common." Mr. Coverdale is an intelligent bee-keeper, by no means a novice, and it is not likely that the 50 queens were all obtained at one time, but at different times with the view of improving his stock. The supposition is, that most of the queens he bought did not show as good results in honey-gathering as the queens he already had, leaving the inference that one or several of the queens he got did show better results than those already on hand. For the sake of illustration, let us suppose that three of his purchases showed an advance. It is not hard to understand that the greater the improvement resulting from any of these purchases, the more difficult it was for any subsequent purchase to show still further improvement. If at any one time a purchase showed a great advance, a number of succeeding purchases might show no advance, altho the queens received should all be good. So if Mr Coverdale's stock should all the time be called "common stock," the fact that only one or several of the purchast queens made any improvement is by no means clear proof that any one of the queens purchast was not above the average of queens thruout the country.

Suppose, however, that most of the queens were really bad, much poorer than the average thruout the country, the possibility is still left that the improvement from the few good ones might more than pay for the whole cost of the 50; in which case Mr. Hasty's question, "Shall we stop buying queens?" must be answered in the negative.

Referring to Mr. Grimsley's statement that "queens hardly ever show up as well after having gone thru the mails," the question might arise, "If the queen received by mail, after being fully settled, shows no better results in honey-gathering than the average colony already on hand, is there any advantage in purchasing such queen?" It would be unwise hastily to decide that such a question should always be answered in the negative. It is well understood that while some queens may pass thru the mails unharmed, the injury to others is of all degrees. A queen may be so injured that she ever after does poor work at laying. But the direct result in honey-gathering by the worker progeny of that queen is a very small part of the object the purchaser has in view. What he wants is improvement in queen progeny, and that may be as great as if the queen had never been thru the mail.

The testimony of hundreds upon hundreds is that great improvement has been made thru queens purchast and sent by mail. If such were not the case it could hardly be possible that the trade in queens should have attained its present proportions. And the probability is that more queens to-day are sent by mail than ever before.

All this does not in the least militate against the fact that the intelligent honey-producer, whether he makes further purchases or not, should aim at constant improvement by careful weeding out of poor stock and breeding from the best.

Keep a Record of Your Colonies.—Every bee-keeper has noticed the difference in the performance of different colonies, and sometimes the question has been askt as a poser: "Why is it that two colonies side by side, equal in all respects, show such different results in storing?" As a matter of fact, they are not equal "in all respects;" one is more industrious than the other. It is important that a written record be kept, showing just how many pounds of honey have been secured from each colony. Other things bearing on the reputation of a colony should also be recorded, for example, when for any purpose brood is taken from or given to a colony. Other things being equal, a colony that has had brood or bees drawn from it ought of course to have some credit for that.

If these things are not put down in writing somewhere near the time of their occurrence, they are likely to be forgotten; at most, the bee-keeper has a rather indistinct remembrance of them.

Such a record may be of very great value if proper use is made of it. Having positive knowledge as to the relative working power of different colonies, the bee-keeper will know from which colonies to breed so as to improve the character of his stock. Not only is it important to know the best stock, but also to know the poorest. In the ordinary apiary are found colonies that produce much less than the average, which are allowed to go on year after year reproducing their own kind. True, there may be, and probably will be, an improvement of stock when the poorest colony in an apiary is entrusted with the matter of superseding its own queen, but with that improvement the stock will still be poor. The wise bee-keeper will at this time of year take account of stock, and remorselessly kill every queen whose progeny has shown itself inferior in working qualities, replacing her with one of best stock.

Some bee-keepers make a practice of replacing every queen which has past a certain age. Much better is it if instead of selecting for destruction those which have past a certain time limit, those be doomed which have failed to come up to the average in storing, whether the queen be young or old.

This must not be understood as meaning that the queen now in the hive shall always be held responsible for the work done. Here is a certain colony which had at the beginning of the season a very old queen, but one which did fine execution the previous year. Owing to her great age, the colony was not brought up to full strength in time for the honey harvest, but before the close of the harvest she was superseded by the workers. The colony has done poor work at storing, but it would be unwise to kill the present queen. She is of good stock, and next year her colony may surpass all others. But when the same queen has been in the hive all the season, she may be held accountable for the good conduct of the colony under penalty of dethronement.

Bee-Paralysis has had many a cure reported, but when tried these cures do not seem to stand the test. Editor Root gives in Gleanings in Bee-Culture a treatment which, altho its difficulty of application may prevent its use in many cases, it may still be well to know. Mr. Root says:

> "As to bee-paralysis, there has been proof advanced to show that the disease is constitutional, and resides in the queen. There has also been proof to show that even when the queen is removed the disease would go on just the same. The only rational way of treating bee-paralysis is to take all the colonies so affected and remove them to a new location a mile and a half from any other bees, and then remove the queen and give them another. But before doing so, shake all the bees in front of the entrance, in the grass. The sick ones will remain outside, while the healthy ones will crawl in. After the queen is introduced, go over the combs ever so often, and hand-pick the sleek, shiny bees off the combs. Once in awhile give the colony a frame of hatching brood from a healthy colony.
>
> "We have found this, that removing the queen and also removing the sick bees as fast as they show symptoms of the disease, at the same time giving hatching brood, will very often cure the worst cases.
>
> "One writer recommends putting a healthy colony on the stand of the weak one, and the weak one on the stand of the healthy one. The result is that the healthy bees carry out the dead ones and the sick ones, and, according to the statement of the one who recommends this treatment, it effects a cure."

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"**The Hum of the Bees** in the Apple-Tree Bloom" is the name of the finest bee-keeper's song—words by Hon. Eugene Secor and music by Dr. C. C. Miller. This is thought by some to be the best bee-song yet written by Mr. Secor and Dr. Miller. It is, indeed, a "hummer." We can furnish a single copy of it postpaid, for 10 cents, or 3 copies for 25 cents. Or, we will mail a half-dozen copies of it for sending us *one new* yearly subscription to the American Bee Journal at $1.00.

Convention Proceedings.

Report of the Proceedings of the 31st Annual Convention of the National Bee-Keepers' Association, held at Chicago, Ill., Aug. 28, 29 and 30, 1900.

BY DR. A. B. MASON, SEC.

The 31st annual meeting of the National Bee-Keepers' Association was called to order at 7:15 o'clock, Tuesday evening, Aug. 28th, by the President, E. R. Root, of Ohio.

The convention, led by Mr. George W. York, of Illinois, with Mrs. York at the piano, sang the "Bee-Keepers' Reunion Song," after which prayer was offered by Mr. R. C. Aikin, of Colorado.

President Root—The next thing on our program is "How to Sell Honey," but we have with us Mr. Frank A. Converse, of New York, Superintendent of the Live Stock and Agricultural and Dairy Products, of the Pan American Exposition. Those with whom I have talkt, think best to call upon him to speak to us now.

Mr. Converse—Mr. President, Ladies and Gentlemen: I did not come here to advertise the Pan American Exposition. You represent one of the greatest industries in the United States, and since my connection with the work in our own and other States, I have come to believe that the bee-industry is one that should receive special attention at the hands of the Exposition. I am not a bee-man and know nothing of the business whatever. I told your president I would like very much to come and meet with you here, and find out what you wanted with reference to an exhibit at the Exposition. I may say to you that every State in the Union will be represented at Buffalo next year. Many of them have made large appropriations, and some of them who have not made appropriations we expect will do so later on. Every Central and South American country, save three, have already signified their intention of making an exhibit. Then in connection with the Live Stock Exhibit, I come here to find out what you as bee-keepers want, and if you want to make an exhibit by States, and in just so far as I am able, and I know that is the wish of the management of the Exposition, we will meet your suggestions and your demands, and I would simply ask that during this convention you have a committee, or formulate some action which will guide us in making one of the best apiarian exhibits that ever has been brought together on this continent. It seems to me that this is a question that interests you as well as it does us, and I simply come here for that purpose. I have been visiting at Colorado Springs, attending the Farmers' Congress, and have just stopt over here a little while to meet you for this purpose. Now not being a bee-man, I can not make to you any suggestions, but I will promise you that we will do everything that it is possible for us to do to carry out any suggestion or any plan that you may formulate. Our present plan, I may say, is to have those exhibits in the main Agricultural Building, and we do that for the reason that I am told by some of your number that at some other expositions the bee-men have made their exhibits in a special building, and that but few, aside from those who were specially interested in that exhibit, visited that building. My idea is to give it a prominent place in the main building, and make people see it whether they want to or not.

Now, then, about the character of the exhibit, you bee-keepers know a great deal better about that than I do, and our plans, so far as that is concerned, have not taken any definite shape, and I should be more than pleased to have this meeting take some action and make some suggestions. I promise you, so far as we are able, we will carry out your plans.

Mr. President, I am not here to take your valuable time, because I know you come here to listen to some talks and look at the pictures, and I simply express in an offhand way my pleasure at meeting you, and I trust that your convention will be successful, and I know it will be, because you men and women have come together, I believe, in the right spirit, and wherever men come together in that way, whatever the association may be, my experience is that great good can come from it. I thank you very kindly, sir, for this opportunity of bringing this matter up. I can't say more than bid you God-speed along the line of your work. Whatever you want us to do, we will try to do the best we can. I thank you very much for this opportunity.

Rev. E. T. Abbott—Perhaps I owe the gentleman who just left the platform, and the convention, an apology. I am not feeling very well, did not sleep any last night, and I went to the hotel to take a nap and just waked up. I am not in the habit of going to sleep on duty, but I promist the gentleman to meet him before the Association had their meeting, and for that reason I did not do it. I just discovered a little while ago it was time to commence. There was appointed at Philadelphia just such a committee as we need now, consisting of our chairman, Mr. Root, Mr. Marks, of New York, and Mr. York, of Chicago, Mr. Selser, of Pennsylvania, and Mr. Hershiser, of Buffalo, who is right on the ground. I do not know as it is necessary for us to make a motion, or for me to make a motion that that committee go on and do their duty and make such arrangement as they deem necessary, but I think they will without discussing the matter further. I know Mr. Root will look after the matter. It had been overlookt by him and a number of us that that committee was appointed, but Mr. York remembered it, however, and on investigating the files, we find such a committee was appointed, and I do not think we could better it. So far as I am concerned, I think we would better leave it just there.

Dr. Mason—A few weeks ago, as Secretary of this Association, I received a letter from Mr. Converse in regard to this matter, and we have been corresponding in regard to it since. He is here by my invitation to-night, being in the city. I think we ought to put our influence with Mr. Converse to make such an exhibit as will be creditable to our fraternity, to us as bee-keepers.

Pres. Root—What instructions, if any, do you wish to give to this committee at this time?

Dr. Mason—Not any.

Hon. R. L. Taylor—I move that that be made a subject for consideration at the first hour, Thursday morning. (Seconded and carried.)

Mr. Converse—I would like to say just one word and that is regarding our present plan, so far as it is mapt out, that is, to have this bee-exhibit a representative exhibit from States, and each exhibitor won't lose his identity. That is, if one man comes from Colorado, we shall expect his exhibit to be a part of the Colorado exhibit in the apiarian display, and whatever awards go to that exhibit, of course will go to the individual who makes the exhibit; and if any of you people don't know who your State commission are, if you will correspond with me, I will put you in touch with the man who has charge of this particular part of the State exhibit, if the commission has designated such a man; I will be glad to render you any assistance I can. You can get my name from the Secretary. I shall be glad to receive letters from you and receive suggestions along the line of State Exhibits.

Then followed a paper on "How to Sell Honey," written by Mr. S. A. Niver, of New York, but read by Mr. York, as Mr. Niver was not present. The paper is as follows:

HOW TO SELL HONEY.

When our genial secretary propounded to me the conundrum, "How to Sell Honey," for a solution to be given to the National Bee-Keepers' Association, I said to Editor York, "That's too easy; just offer your customer a *better bargain* than your neighbor does, either in quality or price, and, as a matter of course, you will sell your honey, and your neighbor can—well, perhaps *eat* his."

Thinking the subject over in the light of giving directions "How to Sell Honey," to a convention of bee-keepers, it would appear to be necessary to give that neighbor a hint how to proceed after Dr. Mason had filled his market full "forninst" him; and here the subject began to look complicated, so, as is customary, I put it off until a more convenient season.

A short time ago W. L. Coggshall askt me if I was going to attend the Chicago convention of the National Bee-Keepers' Association, I replied, "No; but I have a conundrum for you. Can *you* tell 'How to Sell Honey?'"

"I can't; haven't any to sell," was his reply. That was like the old recipe for cooking hare—"First catch your hare."

Then I lookt up the authorities, the writings of the veterans, and found all harping on the same string—sell in your home market after getting the crop in the most attractive condition possible. The results of this line of advice is familiar to all. Polisht and sand-papered sections, nice shipping-cases, fancy labels and cartons, bleacht combs, and extra-filled sections ("stuft prophets," Morton used to call them) obtained by crowding bees for room in the surplus department, at the expense of shortened crops, much extra time and labor, extra annoyance from swarming, and crowding out the queen in the brood-chamber.

After all this, when we come to market with our honey we find our neighbor has been busy at precisely the same thing, and has beaten us by a day, or has sold some inferior honey at a low price, which is about as bad.

This line of advice, carefully followed by all, will result in a greater consumption of honey, without doubt, for nice looking, clean looking goods sell much more rapidly, but it makes a comb-honey producer work on Dr. Miller's 8-hour system—8 hours in the forenoon and 8 hours in the afternoon—and every year get less for the crop than he did the year before, other things being equal.

David Harum's golden rule, "Do to the other feller just what he's tryin to do to you, but *du it fust*," pithily sums up the anti-moral, anti-Christian, anti-common-sense methods now in vogue, but which will endure until displaced by something better.

Shipping honey to the city commission merchant is another method which has so many drawbacks that the veterans give about the same advice in regard to it that "Puck" gave to those about to be married—"*Don't*." And in a stage whisper let me say that the commission man has troubles of his own, which Mr. Burnett may tell us more about before this meeting is over.

Six years ago, a number of honey-producers of Groton, N. Y., believing it better to combine than to compete, pooled their interests, and sent the writer of this article, "armed and equipt as the law directs," with sample case and power of attorney, to the grocers in cities reacht by our one line of railroad, to sell and collect for all, and divide the expenses in proportion to amount sold for each member. This arrangement workt so satisfactorily that it has been followed each year since, with growing acquaintance, and mutual dependence between our customers and ourselves. True, there are some drawbacks to this method, such as bad debts, much book-keeping, owing to large number of small sales, and length of time it takes to get collections in and distributed, but the net results in price and security have, on the whole, been very satisfactory.

Fellow honey-producers, isn't the key to Dr. Mason's conundrum to be found in that experiment of ours, with its basic principle of combination as opposed to competition? An adoption of some such general method would put the honey-producer abreast of the times, in harmony with the spirit of the age.

The trusts have taught us that success must be lookt for chiefly by eliminating unnecessary expenses and losses. Our old cut-throat system can only change for the worse. There can be no patching or doctoring that will effectually improve it.

At the outset we are confronted with the utter impossibility of combining the interests of such a vast number of individuals, scattered over such vast areas, and the great variety in quality, color, flavor, and demand for just the particular kind the customer has been educated to prefer; but isn't it within the range of the possible, for the buckwheat honey-producers of New York State, for instance, to organize, and give the method a trial? In numbers, area of production, and area of effective markets, there are presented no difficulties which rightfully should discourage as energetic and intelligent a body of men as the New York State buckwheaters are known to be, in a matter so vitally interesting. With a thoro knowledge of the amount to sell, and a common agreement as to a minimum price to be accepted of anybody except the representative of the combination, who will take all unsold honey at a fixt date, and dispose of it to the best advantage possible, the York State buckwheater would have a chance to be less conspicuous by his absence at the next meeting of the National Bee-Keepers' Association.

Mr. Chairman, it is said that "a *word* to the wise is sufficient," and I hope this crude outline of a plan may prove to be the right "word," which will reach the ears of the "wise," and result in a better condition of affairs. If the secretary had only worded his conundrum, "How *not* to sell honey," I could have described the prevailing methods in detail, and felt that my answer had been nearly correct.

In conclusion, I hope that the convention will turn the search-light on this subject, and evolve a practical plan, which shall benefit the apiarist in this all-important branch of his beloved pursuit.

S. A. NIVER.

(Continued next week.)

Contributed Articles.

Letter from Mr. C. P. Dadant, Now in France.

LE CHALET, NYON, FRANCE, Aug. 22, 1900.

DEAR MR. YORK:—You must think that I am very neglectful of the promise I made you to write you from Europe, about bee-culture abroad. I must say, in explanation, that two things have detained me from writing, the main one being that I have seen but little of bee-culture so far. The other reason is, that I have traveled so much, and have so well occupied my time, that I have found no occasion to put my thoughts and observations on paper.

I came to Europe ostensibly to represent American bee-keeping at the Paris Congress, but more particularly to visit the land of my birth, and the home of my young days. It is now 37 years since we landed in America, and we are more attacht to our adopted country than to the land of our birth; but a visit to the scenes of one's childhood has an invincible attraction. I went to the city where I was born—Langres—on top of a high cliff, a walled fortress, such as does not exist in America; and when I reacht it I found myself much in the position of Rip Van Winkle, after his 20 years' sleep, with the difference that the time was 37 years instead of 20, and that I had been wide awake a good portion of that time. But one generation has past, and I find the sons where their fathers used to be. Friends of 25 years of age are now 62. It is old age instead of youth.

So far, as I already said, I have seen but few bee-keepers, at Rouen, at Pierre, in the valley of the Saone, at Macon. I find that, in France, practical bee-keeping is only practiced by educated men—school-teachers, doctors, lawyers, priests and cures, and a few retired merchants. In the country, the villages, the peasants still cling to the old ways, and it is difficult to pull them out of the rut. Education, tho gratuitous, is still not so generally diffused as among our American countries, and people are either better educated, more scientifically, more thoroly, in a more classical manner, than in America, or they are more ignorant, slower, more rusty, than our roughest classes. Hence their slow progress. But in return we can see highly educated men of most ancient houses who are as progressive as any of our Americans, and who are impatiently trying to draw the peasants out of the rut in all industries, as well as in bee-keeping.

I believe it will interest you in this connection to hear of an establishment which I visited in the city of my birth. I stopt with a friend, a manufacturer of cutlery, Mr. Beligne; staid a week at his home, and had occasion to visit his office and his warerooms. In a massive stone building, 500 or 600 years old, the office is a spacious room with desks and closets. This room is warmed in winter by a stove of *queensware* (faience), elegantly ornamented with brass mouldings, and of snowy whiteness. In each angle of the room is a niche with the bust of some noted man of ancient days. On the walls, carefully framed, are old circulars, advertisements, on coarse paper, dating back as far as 1780, 1690, 1610, the latter being the oldest, showing that the great, great, etc., grandfather of the present owner, bearing the same name, was already a manufacturer of cutlery 290 years ago. But let me quote verbatim:

"Didier Beligne, master cutler, at Langres, at the sign of the Royal Scepter, manufactures and sells razors, lancets, knives, and all surgical and tonsorial instruments. Langres, 1610."

Is not this wonderful? A business kept up, from father to son, for 290 years, and perhaps longer, for this is only the length of time traced back by actual prints! We have no idea of the steadiness of an industry which has been handed from father to son for three centuries. This alone is an advertisement, for it attracts the attention, and one can not help thinking that a business which has been kept up for so many years, and has been on the increase, must have been carefully conducted, and on safe but progressive principles, and must have an intrinsic value.

Mr. Beligne produces some 3,200 different patterns of cutlery, manufactured either under his supervision or for his trade, which extends all over Europe. They seek but little trade in America, owing to the heavy tariffs, but they do extensive business with Russia, Germany, Italy, Switzerland and Spain. Not only are the manufacturers steadily engaged from father to son, in the same line for centuries, but they often keep the same employees from father to son. Our friend introduced me to a man in his employ whose grandfathers were employed by his own grandfather.

In these ancient places, one would think that the latest discoveries of civilization would be slow to come, but they are very readily taking advantage of the latest invention—the telephone, the typewriter, the electric tramway, and electric appliances, etc. Why, then, is bee-culture so far behind? Because bee-culture belongs to the rural pursuits, and the peasants, as I said before, are still uneducated. Routine is absolute queen of the French village. The houses are old, the manners are quaint. The entire household is under one roof, and from the kitchen you can pass into the barn, thence to the wagon-sheds, and thence to the stables, without stepping out-of-doors. So the apiary is still represented by straw skeps or willow baskets, carefully daubed with mud in all their joints. If there is a progress, it is found in the apiary of the schoolmaster, or of the cure, of the village doctor, or of some wide-awake horticulturist, who has brought home from the city college, or from the county fair, some new ideas, and a few good books.

But as the people are evidently conservative, as all changes are hooted at and condemned, they hesitate very much to change from the old ways to the new, and I have met men who extolled the movable-frame hives owing to the understanding they had of the manipulations they permit, but who were absolutely determined to use them only to hive new swarms, without any thought of transferring the bees out of their old skeps into new styles, unless the hives were entirely rotten.

Honey sells at a good price, and no wonder, for sugar retails at double the price we pay in the United States, and we all know that honey closely follows the price of sugar. But why does the Frenchman pay so high for his sugar? Because there is a high revenue tariff on sugar, and at the same time a premium to the exporter. Thus, French sugar sells in Switzerland at 5 cents per pound, while the Frenchman has to pay 10 cents for the same article. He is, therefore, giving a premium to a few sugar factories in order that he may pay more for the article for his own consumption. That is a finely constructed method of helping progress, is it not? *Protection a outrance.*

Among things of no value to us, I have seen, at Pierre, a lot of honey of the very best quality, put up in glass tumblers, the smallest of which, I was told, holds 40 grammes of honey, or about one-tenth of a pound. These glasses sold for 3 cents, and as the tumbler itself costs only a cent, the honey is thus retailed at 20 cents per pound.

Labor is exceedingly cheap, and they do things that we would not think of doing. For instance, an apiary will be surrounded with fine flower beds and gravel walks, altho the hives themselves, if they were in our hands, would either be considered as unfit for use, or would be lookt upon as very inferior specimens of workmanship.

Scientific investigations, among the educated, are followed very closely. I met an old doctor who had analyzed honey taken just after it had been harvested by the bee, and at the same time some nectar from the blossoms on which the bees had been working. He had also tested the density of the honey comparatively when taken from the bloom in the early morning and at noon. Yet he was not a chemist, but had simply wisht to satisfy himself, and by close personal examination, of the quality and condition of the honey his bees produced.

I am at present enjoying the hospitality of our good friend, Mr. Bertrand, in his fine *chalet* on the shores of the lake of Geneva. Mr. Bertrand is the worthy editor of the Revue Internationale d'Apiculture. We are to have a meeting of Swiss bee-keepers here, and in some future letter I will speak of this, as also of my visit to the apiaries of Mr. Maigre, at Macon, France.

We are to remain here another week, then go to Paris, and two weeks later we go back to dear America.

Your friend, C. P. DADANT.

Wanted—Better Prices for Honey.

BY H. D. BURRELL.

A VERY small crop of honey is reported from nearly all sections this season. Because of this fact, it seems to me the present quotations for honey in the city markets are too low. There has been a sharp advance in prices in most lines of goods in the past 18 months—why should not honey prices advance also?

A little experience of mine has a bearing on the matter. Some 12 or 15 years ago I was fortunate in securing a good crop of fireweed honey. We lived then near a large tract of land over which a fire ran the year before. In this country fireweed grows, usually profusely, for one season after such a fire. Then there is little of it seen until after another fire, which may not come for several years. In this particular year, bee-keeping neighbors, who lived out of bee-range of this fire-swept tract, got a poor crop, and I had little except fireweed honey. This honey is light in color, and of good flavor, and will pass for clover honey, except with experts.

When the comb honey was ready for market, I packt about 500 pounds and went with it to Chicago. The year before there had been a large crop, and prices had ruled low for those times, and there was still some old honey in the commission houses there. I talkt with many commission men. They thought about 15 cents was the right price for honey—possibly 16 for a fancy article. I knew from various sources the honey crop was light, and decided my honey must sell for more than that. I selected a good house, and told the manager he could have my honey if he would hold it for 20 cents. "Well," he said, "we have room to store it, and can hold it, if you wish, until you order it sold for what it will bring. But there is no use trying; we can't sell it for that price." "All right," I replied, "when I want it sold for less I will write you."

Three days later a card came saying the honey was sold, and they could use more at the same price; that "buyers thought it an extreme price, but the quality was so fine, and the packing so attractive, it sold readily."

In a short time my comb honey was all sold at 20 cents.

Now, can't a moral, or several morals, be drawn from this little story? First, it pays to understand our business, whatever it is, and attend to it ourselves, in an intelligent manner. I was richer by a considerable sum than would have been the case had I left all to the discretion of the commission man. Take the papers, and keep posted. All progressive honey-producers know there is not much honey to come forward this season. There is a class, and not a very small one either, who will have good honey at almost any price.

I have sold honey, a great many tons of it, as well as other produce, thru commission men for over 25 years. I have frequently interviewed them, and I think I understand them pretty well. I am glad to be able to say they are most of them very fine men, and my dealings with them have almost always been very satisfactory. But they are between two fires—shippers and buyers. They have friends, often heavy buyers, whom they are anxious to please and hold, and it is not strange that they will often do so at the expense of shippers. Put it out of their power to do this with *your* honey this year by limiting the price. If not in too much of a hurry to sell, you can get a good price for all there is to sell. Of course, this plan will not work so well in flush years.

I now produce only extracted honey, and have a good home market for most of it. If I had comb honey this year, and wanted to sell it thru commission houses in Chicago, or any other city, I would induce honey-producing friends to pool their interests with mine, put up the honey in attractive shape, go to the market and explain the situation to a half dozen or more good houses in the selling district, and fix the selling price at a fair figure, considering the probable supply and demand. Selling honey in many places at the same price, buyers would soon learn that they must pay a good price for honey if they got it, and would pay it just as readily as a low one.

Van Buren Co. Mich., Sept. 3.

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Shade for Hives—Preventing Drone-Comb.

BY G. M. DOOLITTLE.

WILL you please tell us in the American Bee Journal what is the best method of shading hives from the sun?

ANSWER.—Various methods have been advanced, such as grape-vines, sunflowers, trees, shade-boards, etc., each having its good points. Trees have one advantage over everything else, in that they shade the *apiarist* as well as the hives; and what bee-keeper is there who has not wisht for a shield from the sun for himself when working for hours on a July or August day when the mercury was playing among the 90's in the shade? While this is so, yet trees, as a rule, are apt to give too dense a shade; and I am satisfied, from years of close observation, that, so far as the bees are concerned, they do much the best right out in the rays of the sun the whole year around, when the question comes to dense shade or no shade at all. For this reason I prefer to have a shade where I can go once in a while when becoming greatly heated, and either paint the hives white or use a shade-board for each hive, letting them stand in the sun.

Lately, in making some new hives, I have taken no pains in making the cover water-tight, but have made a shade-board to project from two to six inches around the top of the hive, the six inches being on the south, while the north side has a four-inch cleat nailed to it, thus giving it a pitch to the south, this causing the rain to run off easily, while at the same time it gives a good circulation of air over the top of the hive, so that the heat never drives the bees out of the sections, or causes the combs to melt down, with the hives standing in the full blaze of the sun in the hottest of weather.

Where I formerly covered the tops of my hives with tin, or made tin-rooft hives, I now cover this shade-board with tin, and in this way no water ever touches the top of the hive. After a use of them for six or eight years I am much pleased with them, and prefer this arrangement for shade to anything else I have ever tried. The wood material used for the shade-board is ¼-inch stuff, thus making it very light to handle; and as an insurance against the wind blowing it off, I put a common brick on each; and during the time I have used them, not more than one or two have been blown off, even in the most severe gales.

HOW TO PREVENT DRONE-COMB BEING BUILT.

QUESTION.—In the production of comb honey where a first (or prime) swarm is hived on comb-foundation starters, say two or three inches deep, and with sections on top filled with full sheets of foundation, what is the best method of preventing the building of drone-comb?

ANSWER.—Under such circumstances as the question describes, prime swarms are not very apt to build much drone-comb, as drone-comb is very largely built the first season for store-comb. In other words, bees build very little drone-comb the first season after being hived, only as they get in advance of the queen in comb-building. If they build comb faster than the queen can occupy it with eggs, then they keep on building comb, the same as they would if she kept eggs in the cells as fast as built; but instead of building worker-comb they change the size of the cells to those which are more economical for storing honey, which are of the drone size. These cells are filled with honey, so do very little harm the first year; but the next year, as the honey is consumed from them, the queen deposits eggs there, and from this comes a horde of useless drones, or such bees as produce no honey, but constantly consume it.

The above is applicable to a swarm of bees in a hollow tree or some box-hive, where they can do just as nature prompts. But it will be seen that the questioner has placed his swarm in a different condition than would be one in a hollow tree, in that he has put on sections filled with foundation, which foundation will be drawn out into comb as fast as the bees want room to store honey, as well as to remove a large part of the bees from the brood-chamber, and for this reason the bees will very rarely build comb in the brood-chamber faster than the queen will fill it with eggs, if the queen is a good prolific layer, as she should be in all cases where comb is being built; and the result is, sections filled with honey with very little, if any, drone-comb in the brood-chamber below.

And, I believe, as does W. Z. Hutchinson and some others, that the brood-chamber is filled with comb more cheaply under such circumstances, and more honey secured in the sections than where the brood-chamber is filled with frames full of foundation.

Now, if in addition to the above, the brood-nest or brood-chamber is contracted to two-thirds its usual size when the swarm is hived, we are almost certain not to have any drone-comb built, for this gives an additional security against the bees getting the start of the queen. But suppose a frame or two of drone-comb should be built, this can be removed from the hive the next spring, and frames of worker-comb substituted for it, when the drone-comb can be melted into wax, or kept for the production of extracted honey, using it in an upper story over a queen-excluding honey-board. I have practiced this method for years, and think it pays me better than to buy foundation.

I am well aware that there are many of our best bee-keepers who do not agree with me here, but would say: "Fill the frames full of foundation every time;" but when I answer any question I, of necessity, must answer it from my own standpoint; and if any reader thinks otherwise than I do, he or she is at perfect liberty to follow any plans given; test them to know that these different ways are better, or let them alone altogether. I have never seen where there was any occasion to feel hard toward a brother or sister bee-keeper who honestly differs from me in opinion, for there is room enough for all. Onondaga Co., N. Y.

Moving Bees to Fall Pasturage—When and How.

BY GEO. DEMUTH.

My locality furnishes surplus honey from clover and basswood only. No honey is gathered after the basswood harvest closes, the bees thus becoming consumers in July. Twenty-five miles away, in a region of small lakes, are numerous "dead lakes," or swamps and prairies. In August and September the goldenrod and Spanish-needle transform these prairies again into lakes, surpassing even their former glory, with their brilliant yellow surface stretching from shore to shore. Those that are dry enough to pasture present a silvery appearance from the abundance of boneset. In the adjacent corn-fields, heartsease is plentiful during wet seasons; and on the sandy upland, goldenrod monopolizes the waste land.

My management at home has been such that the bees are brought thru the white honey harvest short of stores, the honey having gone into the supers. This necessitates feeding for winter; the expense of which, after a poor season, when most of the cash receipts must be invested in suger, has sometimes almost made me wish I had never seen a bee. In 1896 I moved a load of bees to this location of autumn flowers, and secured an average of about 40 pounds of comb honey per colony. In addition to this, each hive contained enough honey to last until the next spring.

Since then a part of each year's program has been this "midsummer outing;" and I have not fed any for winter since I began moving.

While the net returns from surplus honey secured by moving have been by no means dazzling, yet the cash realized on the time actually spent makes a *per diem* wage, which, if continuous, would tempt most of us.

One year very little surplus was secured, yet if there had been none, the increast amount of brood reared, and the filling of the hives for winter, would have been ample pay for the time spent in moving.

Many have askt why I do not locate permanently in this prairie region. If I were located there I would need to move *here* for the *early* honey-flow. When the honey-flow ceases here, the sections are removed, and, as far as they will go, extracting-supers are adjusted. If I had enough extracting-supers I would ordinarily extract all the amber honey; yet, as I have no trouble in selling this amber comb honey at more than double the price of the same extracted, I have not seen fit to provide extracting-supers for all colonies to be used only in autumn.

Any colonies that are very heavy have the heaviest combs extracted to prevent cramping the brood-room. New swarms that have their brood-nest contracted are given empty combs to complete the set. The bottoms are now fastened to the hive-bodies by two nails driven thru the bottom into the sides of the hive-body. To drive these nails the hives are stood on the back end. The bottoms are left on from year to year, unless there are reasons for taking them off, when they are easily removed. Rims 2½ inches deep, having the same outside dimensions as the hive, and covered with wire-cloth, take the place of the cover. These rims are fastened to the hive-body by two long, slender wire-nails, driven down thru the rim into the edges of the sides of the hive. The cover and bottom are thus fastened with four nails. Hives having on extracting-supers have the stories fastened together by tacking on lath or frame-stuff. Sometimes neither the bottom nor rim are nailed to the hive-body, but a lath is nailed on each corner to the bottom, bodies and rim.

As there are generally at least two weeks after the close of the harvest here before there would be any great advantage in having the bees in their new location, I sometimes wait for a cool night. Moonlight nights are preferable for moving, but not necessary—we are sometimes glad to have even the light of the stars.

Loading the Hives on the Wagon for Moving to Better Pastures—(*From Bee-Keepers' Review.*)

On the Road to a Sweeter Land—(*From the Review.*)

The time for the journey having been selected, the top screens are put on and all the hive-fastening done by daylight except putting on the entrance screens. These screens are fastened to a lath with two small nails. These nails are partly driven into the lath, and the entrance screens are distributed before evening, that they may be put on quickly when the bees quit flying. When the top screens are put on, the cover is laid over them, and the shade-board put in place to prevent, if possible, the bees clustering out. It is quite a task to smoke in the bees of 50 colonies, and put on entrance screens during a hot July evening. If the bees are in the hives, as they should be, one person, with an assistant to load, can easily close the entrances and take to the wagon 50 colonies after the bees quit flying, and before dark. If a hive should leak, the hole is plugged, and no attention paid to the bees that are outside, unless they are in the driver's way. Bits of comb, not too old, make excellent plugs for leaky hives. It is well to prepare one or two extra colonies, to be substituted for any that might leak badly. I have moved on springs and on straw. Springs are preferable, being handier and lighter. When straw is used, it is well to use a false rack on top of the straw. This is made of light pieces the length of the hay-rack, spaced at such distances that the cleats of the bottom-boards will just catch over their edges. This false rack is simply laid upon the straw, and wired to the end sticks of the hay-rack. It holds the hives in place, and requires much less straw, as no individual hive can settle down into the straw.

When bolster springs are used, the hay-rack is easily transformed into a bee-rack by nailing on extra boards lengthwise, spaced so as to hold the hives in place by the cleats on the bottom-boards. The covers are packt in the lower part of the rack before the bees are loaded.

Unless the roads are rough, or the night is very warm, I drive as fast as the horses will walk.

Most of my frames are the Hoffman; but the loose, hanging frames go all right without any fastening or attention whatever. Perhaps if they rested on tin rabbets they might need fastening. I have never seen a frame moved out of place by handling.

After the frost has killed the flowers the bees are moved home at once. The return trips are made during the day. No screens are now used, as the weather is cool. I brought them home last year without fastening the covers, as the propolis held them firmly. Neither do I find it necessary to fasten the covers when hauling to an out-yard in the spring; but care must be taken in loading, that the covers of the different hives do not bind, or they may be broken loose.

Owing to insufficient ventilation and an extremely hot night the first load that I hauled to fall pasturage got " hot " when about 12 miles away from home. They were set off in a school yard, the entrances opened, and the journey was not resumed until the next evening. When the bees wedge themselves in the entrance and begin to squeal, it is time to unload and open the hives. Since using the deep screens on top no trouble has been experienced. The risk item has grown less with each trip until it has become practically nothing.

In the larger picture the fellow in the foreground is myself. The little tent is where the extracting is done. It is also my kitchen, parlor and bedroom while I " batch " it when caring for the bees. The picture shows only a portion of the bee-yard. I had 80 colonies in that yard when the picture was taken. Near by is a small lake, where I go fishing and boating when time permits.

This season has been the flattest failure that we have had since I have kept bees. I have read of total failures, but this is the first I have ever experienced, and I have kept bees over 15 years. I look with more than usual anxiety to the autumn flowers.

The hive fastenings described in the forepart of my article are somewhat objectionable, in that nails must be driven into the hives. This year I expect to make frames to hold several hives clampt together, without fastening the individual hives. A bottom frame, so constructed that it will hold the bottom-boards in place, and of proper length to fit crosswise in a railroad car, will have holes mortist in just below the corners of each hive. T-shaped posts, formed by nailing a one-half by three-inch piece (top of the T) to a one and one-half by ⅞ piece (stem of T), length of post to be a little greater than hight of hive, upper story and rim for screen, will be dropt down into these holes in such manner that the stem of the T (the ⅞x½ piece) will be between the sides of the adjacent hives, and the top of the T will catch over the ends of the hives, *i. e.*, the corners of two adjacent hives will fit snugly into the corners of the T-shaped post. A light frame, having holes to correspond with the tops of these posts, will be placed on top of the group of hives and drawn down tight against the top of the screens by means of wire loops with sticks. These groups, or clamps, of hives will be placed on the wagon-rack crosswise, which will make the combs run lengthwise of the wagon. This will permit a greater number of hives on the rack one tier high. I would not expect any damage to the combs by being placed lengthwise on the wagon. When placed in a car they will be all right.—Bee-Keepers' Review.

Miami Co., Ind., July 6.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Moving Bees a Long Distance.

I am going to locate in western Missouri, and having an apiary of 15 colonies which I want to take along with me, how would you advise shipping them, and at what time of the year, to have them reach their destination with as little loss as possible? I have been in the business five years, and have had great success, so I now dislike giving them up, if I can take them along without too much expense. ILLINOIS.

ANSWER.—The best time is in spring, when the combs are light, and when the weather is not yet hot. Fall is good, if the combs are not too heavily laden. The exact manner of preparing for shipment depends somewhat upon the kind of hive. In any case there must be provision for ample ventilation, the hotter the weather the more it is needed. Make a frame to cover the entire top of the hive, and cover it with wire-cloth. If the hive is not provided with fixt-distance frames, fasten the frames against moving, either by driving a nail into each end of each frame, or by shoving little sticks down between the end-bars. A sponge full of water in each hive is a good thing. On a wagon, let the frames run across the wagon-box; on the cars, parallel with the rails.

* * *

Feeding Foul-Broody Honey.

Can honey taken from foul-broody colonies be boiled and fed back? If so, how much water should be added, and how long should it be boiled? MASSACHUSETTS.

ANSWER.—Opinions vary greatly as to the length of time required to make such honey safe by boiling, and on the whole there is so much danger that it is better not to use it for bee-food. It will not hurt you to eat it, but it might be death to the bees.

* * *

Clipping Queens—Basswood, Etc.

You will likely receive my order from the publishers of the American Bee Journal, for one of your queen-bees. I am not in a rush to have her, only before you cage her be kind enough to clip her just the way you clip a queen, for I keep every fertile queen-bee clipt, and I would not like to meddle with her.

My way of introducing a queen is this: I remove the queen in the hive (if any), then I hunt out a frame of just-hatching brood. I then fit wire-cloth bee-tight over both sides of this frame of brood and some honey, and here is where I let the caged queen and the several bees with her run on them. I put them in the hive for three days; after the third day I take the wire-cloth off. It has always workt nicely for me.

I inclose a wild honey-yielder that grows on the ore banks. When I go there and stand still, I see bees on it by the thousand. Just as far as my eyes can see the ground is like velvet, and bees on all day. In the morning the nectar on this velvet shines like silver.

Also basswood was in full bloom this summer, but I could not see a bee on the blossom, but it was full of bugs and wasps. Why was this? PENNSYLVANIA.

ANSWER.—Unless there was an accidental omission, every premium queen sent out has had the two wings on the left side clipt, not because that is better than having the other two clipt, but because it is more convenient.

The plan of introduction that succeeds is all that can be askt. As yours succeeds, it is all right. Indeed, one might expect success with such a plan without trying it.

Why didn't you give us the name of the plant that makes the ground look like velvet? The sample sent is beautifully delicate, and it is easy to imagine that a wide expanse of it must be an attractive sight. Perhaps the editor can have it named for us. [Later it will be named.—EDITOR.]

Basswood seemed to act with you as goldenrod generally does here—flies, bugs and things on it, but no bees. I don't know why, unless because there isn't enough nectar to pay a self-respecting bee for the time needed to gather it.

The Adel Queen
you sent me in 1899 is the best queen I ever saw. Her colony stored 42 pounds whitest honey in 19 days, commencing Aug. 11th, now working on third super. Send two more queens.
GEO. H. WEAVER, Rome, N. Y.
One queen, $1.00. Send for September prices.
37Atf HENRY ALLEY, Wenham, Mass.
Please mention Bee Journal when writing.

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What? Our New Champion Winter-Cases. And to introduce them thruout the United States and Canada we will sell them at a liberal discount until Oct 15, 1900. Send for quotations. We are also headquarters for the NO-DRIP SHIPPING-CASES.
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Albino Queens by return mail. Untested, 75 cts.; warranted, $1.00; tested, $1.25.
12A26t J. D. GIVENS, LISBON, TEX.
Please mention Bee Journal when writing

The Sure Hatch Incubator Company, of Clay Center, Neb., write us that they will make an exceptionally fine exhibit at the Illinois State Fair. This will be in charge of Nellie Hawks, the well known poultry writer. She will bring incubators from Nebraska full of eggs one week before the fair, timing them to hatch during the fair. This is the Sure Hatch Company's favorite method of demonstrating the efficiency and simplicity of their machine, and, as Mrs. Hawks will be personally in charge of the exhibit, the interest of the visitors and practical value of the exhibit to them is bound to be increast. Many people regard Mrs. Hawks as the Fannie Field of to-day in the poultry business. Probably no one has done more than Mrs. Hawks to dignify the poultry business, and at the same time simplify the proper raising of poultry on the part of common people. Nothing else indicates the growth of the poultry business better than the sale of incubators which, but a few years ago, was regarded with suspicion by the masses, but now take their place as a farm necessity along with the plow and cultivator; the only essential difference being that these latter are used by the men, and the incubators by the women-folks, both contributing to the farm profits. We trust that all of our readers who see the Illinois Fair will visit the exhibit of the Sure Hatch Company. You are sure of a hearty welcome.

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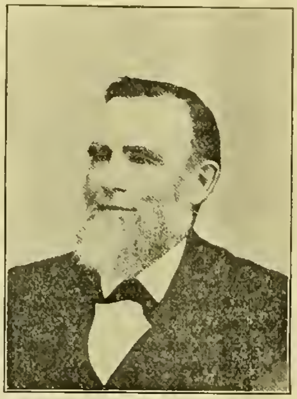

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One Untested Queen Free as a Premium for sending ONE New Subscriber to the American Bee Journal for one year.

Or, send us $1.50 and we will mail you a Queen and also credit your own subscription for One Year.

Or, for $1.00 queen alone by return mail.

We have been fortunate in making an arrangement with DR. C. C. MILLER—the well-known honey-specialist—to rear queens EXCLUSIVELY FOR US DURING THE SEASON OF 1900. These Queens will be mailed in rotation, so "first come first served."

The Queens Dr. Miller will send out on our orders will be precisely the same as those he rears for his own use, so of course they will be from his best stock. His best colony in 1899 had a queen reared in 1898; May 5, 1899, it had brood in 4 frames, and he gave it at that time a frame of brood without bees. It had no other help, but May 25 a frame of brood with adhering bees was taken from it, and the same thing was repeated June 3, leaving it at that time 5 frames of brood. It stored 178 sections of honey, weighing 159 pounds (and that after July 20, in a poor season), being 2⅔ times the average yield of all his colonies. A point of importance is the fact this colony did not swarm, and an inspection every week or 10 days showed that at no time during the entire season was there even so much as an egg in a queen-cell. Dr. Miller rears queens from this one.

The demand nowadays is for BEES THAT GET THE HONEY when there is any to get, and Dr. Miller has such bees. You will want to have a queen from his best, we are sure, even if she is not pure Italian.

Do not send any orders to Dr. Miller, as all orders MUST come thru us, according to our agreement.

Remember, send us $1.00 for ONE NEW SUBSCRIBER to the American Bee Journal for one year, and YOU will get ONE OF DR. MILLER'S UNTESTED HONEY-QUEENS FREE AS A PREMIUM. This offer is made *only* to our present regular subscribers. Orders for queens are to be filled in rotation.

Address all orders to GEORGE W. YORK & CO.,
118 Michigan Street, CHICAGO, ILL.

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ROOT COMPANY'S PAGE.

A $200 Red-Clover Queen at Last!

We finally have her, and she seems to be fully equal to our red-clover queen of years ago. The colony of this queen has given one of the most remarkable showings on red clover of any bees we have ever had, notwithstanding the stock has been robbed repeatedly of young larvæ for queen-rearing. The queen in question is an imported one, and, therefore, of the genuine pure leather-colored Italian stock. We have been sending out daughters from her all the season, but we had not discovered her value until the clover season, second growth, came on, and then her colony so far out-distanced all the other 450 that she attracted attention at once.

We can not sell her daughters untested any more for 75 cts.; but when taken with Gleanings we will sell them for $1.00; that is to say, we will send Gleanings one year, and an untested red-clover queen from this $200 mother for $2.00; a tested queen of this same stock, and Gleanings one year, for $4; or a select tested and Gleanings for one year, $6.00. These queens will be sold only in connection with Gleanings.

Atho these queens have been offered only a week there is a great demand for them, and therefore we can only guarantee that the orders will be filled in rotation and sent as fast as they are ready to send out. Those who send orders immediately will stand the best show of getting stock at once. We can not guarantee to supply, this season, select tested stock, as we may not have it, as such queens will necessarily be limited, but we *think* we can furnish all that will be called for.

It must, however, be understood that these queens are not golden yellow, neither are their bees of the five-banded stock. They are simply leather-colored Italians whose mother came direct from Italy. Those who desire queens of this stock had better get them this season, as the queen may die this winter. At the present time we are setting aside some of her choice tested queens for next season, to test for our own use.

SHIPPING-CASES.

Our No-Drip Cases are still in the lead. We keep constantly on hand a large assortment from 12-pound size up. We also make special sizes to order.

That Root's Cases are in demand is shown by the fact that one dealer alone has ordered 16,000 this season.

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This is the time when you should order odd size or special goods. Our busy season is over and we can do almost any work in wood you want, either for bee-keepers or others.

We make a specialty of packing-boxes, from the size of a section-box up. Let us figure with you.

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How about your winter stores? Are you sure your bees have enough? Should it be necessary to feed you can't do it easier than with our Division-Board Feeder. This is made to hang like a frame in a Langstroth hive. Price, 20 cents each, complete. Less in quantities.

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Do you use labels for your honey? Are they really ATTRACTIVE labels? If you do not you may be losing many sales because your honey lacks attractiveness. You can't expect to market your honey at the best price unless you use every care in putting it up. Send for our label catalog and see our 1, 2, and 3 color labels.

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If you are one of the people who market extracted honey in small lots you will find our pails just what you want. A dozen sizes and kinds to select from. We also furnish square cans —1-quart, 2-quart; 1-gallon and 5-gallons. A single can or carload, as you wish. Write for prices.

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Perhaps you are so far from us and rates are so high that you want to make your own foundation.

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Bee-keepers are always looking for labor-saving ideas. Have you ever read our 16-page pamphlet, "Handling Farm Produce?" It is full of information and gives prices of bushel boxes and other things. Free for the asking.

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"**Operator** No. 6 puts the honey-combs in the extractors, which is a **Cowan** 4-frame reversible, with ball-bearings and lever-brake — in short, the **best extractor on the market.**"

Extract from article of N. E. France, of Wisconsin, in June Review. No one is better qualified to judge the worth of an extractor than Mr. France. He says the ROOT COWAN IS THE BEST.

Thousands of others say so.

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We have all sizes of Mason Jars with aluminum or porcelain-lined caps. Also Jelly Tumblers, two sizes; Glass Pails, four sizes; and Self-Sealing Jam Jars. Besides these we still have the four sizes square jars, which have long been on the market. Don't forget us when you need glass packages for honey.

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Have you ever thought how handy it would be to use a rubber stamp to mark your honey-cases, showing the grade? Then, too, if you sell in the home market you ought to have your name on the case so it would be returned. We make stamps of all kinds for all sorts of purposes. Let us send you our rubber stamp circular.

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Our Winter-Cases are made of thin lumber dovetailed at the corners, with a telescope cover.

The cost is only 75 cents each singly, yet for convenience they are unsurpast, and only excelled by the chaff hive in the protection afforded. Don't let your bees winter-kill or spring-dwindle when you can avoid it by using our Winter-Cases.

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We buy a number of carloads of comb and extracted honey each year. If you have secured a good crop send us your offer. You don't have to worry about the returns if you sell to us.

If you have extracted honey send sample. If you have failed to secure enough for your home market, let us supply you. We have honey engaged all over the country, and can ship direct from the producer, many times.

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A list of our principal agencies will be mailed you on request. We can ship from stock such items as our regular Hives, Sections, Foundation, Extractors, etc., from these agencies.

Send your order direct to us, if you prefer, and request that we ship from nearest point, and we will do so, saving you freight charges and giving you quick delivery.

THE A. I. ROOT COMPANY, Medina, Ohio.

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Or, Manual of the Apiary,

—BY—

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GENERAL ITEMS

Some Honey in San Diego Co., Calif.

Up to May 4th we had the best prospect for another season of feeding the bees that we ever had; but the heavy rains of the 4th and 5th workt wonders for the bee-men, and, in place of starving bees, most apiaries have produced a considerable surplus, and those most favorably located a fair crop. The orange groves in this section came out in full bloom in June—about 3 months later than the usual time—and bees located near them secured a fair crop of that very fine flavored honey. The atmospheric conditions for the secretion of nectar have been favorable, and bees are still storing some surplus. My own bees have heavier stores, and are in better condition for winter, than for the past 3 years; and, besides, I have saved one solid frame of honey for each colony next spring, in the time "between hay and grass."

F. C. WIGGINS.
San Diego Co., Calif., Aug. 28.

Fears Colonies Short of Stores.

Bee-keepers in this district lost heavily last winter. My loss was none. Some of them are beginning to realize that success does not depend upon luck. They have kept me quite busy rearing queens and Italianizing their bees for them. The fall flow from goldenrod and asters failed last fall, bees quit breeding very early, and where feeding was neglected, the bees went into winter quarters short of stores, and with nothing but a lot of old bees that were ready to die when the first cold snap

Sharples Cream Separators: Profitable Dairying

DR. PEIRO.
34 Central Music Hall, CHICAGO.

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—AND—
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It stands for American farmers and producers. It is the leading exponent of agriculture as a business, and at the same time the champion of the Agricultural States and the producer in politics. **Subscription, One Dollar a Year.**

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Golden Italian Queens.

By return mail, 75 cents each; $7 50 per dozen. They pleased every customer this year; well, why not? They are the prettiest, gentlest and best hustlers you ever saw.

—Muth's—

Square Glass Honey-Jars.

Just the package for home trade. Full line of ROOT'S GOODS at their prices.

HONEY.

Have you any FANCY WHITE comb or extracted honey for sale? Also beeswax wanted.

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Smokers, Sections, Comb Foundation
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The Modern Remedy Co., Kewanee, Ill.

came. I fear that the conditions are going to be about the same this year, unless we get some warm weather before long. JESSE MCDONALDSON.

Worcester Co., Mass., Aug. 27.

A Prolific Queen.

In the summer of 1868 I sold a neighbor a queen for $5.00, which was the common price at that time for a warranted queen. She was reared on the old plan of making a colony queenless. She was given to a colony of black bees in a box-hive, and in the spring built the colony up very strong and led out a swarm early in the season, which was also hived in a box-hive. In due time the old colony sent out a second and third swarm, which were also hived in box-hives. Then on the 20th day from the first swarm, the colony of original queen swarmed again, making four hives well stockt with bees from the old queen, as no bees from the young queens had hatcht at this time.

J. L. STRONG.

Page Co., Iowa, Aug. 27.

Bee-Papers Hustle the Bees.

Bees swarmed little, and this means lots of honey, altho a few bee-keepers here did not get a pound of honey to take off. I tell them that bee-papers make my bees hustle.

E. B. KAUFFMAN.

Lebanon Co., Pa., Aug. 20.

Bees in Fine Condition.

There has been much that was both instructive and interesting in the American Bee Journal the past year, all of which I have enjoyed very much. The latest is Mr. J. G. Norton's bee-hive incubator. His description of it is fine. I had been waiting for it.

My bees have been in fine condition all summer, but the early drouth spoiled the white clover, and the extreme heat will shorten the fall crop. All together, I will probably have between 1,200 and 1,500 pounds from 18 colonies, spring count. The quality of the honey is fine. I had only five swarms.

MRS. PAUL BARRETTE.

Crawford Co., Wis., Aug. 28.

When to Sow Sweet Clover.

I have been gathering some sweet clover seed that I intend to scatter along the highway thru this country. When is a good time to sow it?

L. J. BERGH.

Dane Co., Wis., Aug. 31.

[A good time to sow sweet clover ought to be when it seeds itself, which is just now, around Chicago.—ED.]

Two Kinds of Yellow Sweet Clover.

I feel like congratulating you on publishing so able an article as that from S. A. Deacon, in two recent issues. It is the most pointed (and right to the point, too) article I have read in a long while. He is too sharp for Mr. Dadant.

If I remember correctly, you said something awhile ago about yellow sweet clover being earlier than the white. Well, that is so, and still not so. I have been into the sweet clover "field" 15 years or more, and I find there are two varieties of the yellow. The early is *very* early, blossoming in May, and nearly all ripe by the time the white commences to bloom; and the late yellow is two or three weeks later than the white. The early yellow is small, not more than half as large as the white, but the late is fully as large as the white. I have gathered the seed of the white, and had it all thrasht, but have not cut any late yellow as yet. I gathered the early yellow the forepart of July. AARON SNYDER.

Ulster Co., N.Y., Aug. 27.

H. G. Quirin, the Queen-Breeder,
Is as usual again on hand with his improved strain of

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ITALIAN QUEENS.

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Queens promptly by RETURN MAIL. We guarantee safe delivery.

Price of Queens after July 1.	1	6	12
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Bees from these Queens all yellow to tip.			

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100 colonies of black and yellow bees in eight-frame dovetailed hives, two supers to the hive, just as good as new, and all on full worker combs. $200 buys the lot.

37A1t F. GENT, Rockford, Minn.

Not Much Honey.

I did not get much honey this season, but bees are in fine condition.

MRS. T. P. EVANS.

Allamakee Co., Iowa, Aug. 25.

BEEDOM BOILED DOWN

Bees in South Africa.

An apiary near Spion Kop, consisting of seven bar-frame hives, is cleared out, but in this case some broken frames scattered about gave the impression that they had been "taken up" on the Boer system by thrusting some lighted grass into the entrance; the owner also losing a good supply of bee-appliances, as well as all his household goods and farm implements.

The tragic fate of another colony in a fine, full-size glass observatory hive, standing in a garden inside the town, was not involved in the mystery attaching to the others, for it was blown to atoms by a shell that burst close to it, and a splinter from it knockt a cup of tea out of the owner's hand, who himself escaped uninjured.

A little lot of bees up near the top of the mountains managed to escape the general ruin, and beyond one or two isolated hives that I have not yet heard about, I think it is almost all that is left in the district. But the owners do not intend to give up bee-keeping, as one was down here last week and took back two colonies to make a fresh start, and I have just heard from my old friend that he has captured a stray swarm, evidently a starvation one, and is bringing it up with the syrup-bottle.—British Bee Journal.

Carbolic Acid for Robbing.

With all the virtues attributed to the bee, she, nevertheless, falls from grace in at least one respect, and that is in the utter disregard she displays for the good old maxim, "Honesty is the best policy." Her motto is to get honey honestly if she can, but to *get it*, and this disposition of hers to get it when none is to be obtained by honest quest is frequently the cause of much perplexity and vexation of spirit to the inexperienced. My troubles in this line have been as deep as any, and first obtruded themselves upon me when I found it necessary to extract during times of scarcity of nectar, and was guileless enough to replace the combs in the hives at once after extracting. I know better now how to manage these things, and I find that I can ex-

SPECIAL NOTICE!

Last winter's cut of basswood is the whitest it has been for many seasons. We are now making sections out of this new stock and therefore are in a position to furnish you with the very finest quality in the market.

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The book we mail for $1.25, or club it with the American Bee Journal for one year—both for $1.75; or, we will mail it as a premium for sending us THREE NEW subscribers to the Bee Journal for one year, with $3.00.

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That will just "roll" in the honey, try **Moore's Strain of Italians**, the result of 21 years of careful breeding. They have become noted for honey-gathering, whiteness of cappings, etc., thruout the United States and Canada.

Warranted Queens, 75c each; 6 for $4.00; 12 for $7.00. Select warranted, $1.00 each; 6 for $5.00; 12 for $9.00. Strong 3-frame Nucleus with warranted Queen, $2.50. Safe arrival and satisfaction guaranteed. Circular free.

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Italian Queens!

reared from the best 3-band honey-gatherers, by the Doolittle method. Untested, 45 cents each; 1 dozen, $4.50. Tested, 75 cents each; 2-frame Nucleus, with tested queen, $1.75 each. No disease. Safe arrival.

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tract with impunity at any time, providing that I have a bee-proof honey-house, and return the extracted combs at dusk, so that the bees can have them cleaned up and everything in apple-pie order before morning.

Carelessness in feeding, or in exposing sweets of any kind, is also often the source of an outbreak of robbing. But very few experiences, in an apiary of any size, with the robbing propensities thoroly aroused, are required to induce the greatest care in the performance of any future operations that are necessary during a dearth of honey.

Of the many remedies that I have tried in bad cases of robbing, carbolic acid has been the most successful. This acid emits an odor so obnoxious to the olfactory organs of the bee that only the legitimate occupants of the hive, with their strong attachment to home, will pass it, while the most persistent marauders are content to sniff it from afar. A weak mixture of the acid and water sprinkled at the entrance is often sufficient; but in very bad cases I find it a big advantage to throw a quantity of grass loosely at the entrance, and sprinkle this occasionally with the mixture.

Apart from the loss sustained thru the plunder and murder of their own species another disagreeable result of the robbing mania is the persistency with which the demoralized bees attack every living object in the vicinity of the apiary, and the unfortunate attendant speedily finds himself a special target for the operations of their stinging apparatus.—H. L. JONES.

Confirming the above the editor says:

I, too, can testify to the efficacy of carbolic acid in cases of robbing; and I think that, if once tried, no apiary will be without a bottle of it......To use the acid solution conveniently I procure a tight-fitting cork and cut two slots in it lengthwise. This makes a good sprinkler of the bottle; for, by suddenly inverting it, several drops of acid are thrown out, and by a simple swing of the inverted bottle the acid can be directed to any spot. When bees get to making a target of the bee-keeper he should wear a black hat, as they will strike it every time.—Australasian Bee-Keeper.

Bisulphide of Carbon.

In order to make its use effective it is necessary that the combs to be treated should be put in a barrel, box, or something of the kind that can be closed up perfectly tight; and instead of sprinkling a small amount of the bisulphide on the inside of whatever is used, quite a quantity of it must be placed inside in an open dish. I use a small glass tumbler. The amount to use does not matter so there is enough; for any that does not evaporate can be poured back in the can for future use, as, no matter how long a quantity of it may have been exposed to the air any of it which has not evaporated is just as strong as it was before being exposed. It is like chloroform in this respect. The latter I have also used, and found to be effective in destroying worms in brood-combs. But it has no effect on the eggs, and it utterly ruins the flavor of comb honey, giving it a strong rank taste. It is much more expensive for this purpose than the bisulphide, and the combs have to be subjected to its fumes for a much longer time.

When using bisulphide, the length of time necessary to expose the combs to its fumes depends upon how tight the box or whatever is used to treat them in can be closed, and its size—no matter, tho, how long brood-combs are exposed to these fumes, it does not injure them in the least; but as a matter of economy, merely, one would not desire to treat them for a longer time than is necessary, and this is an easy matter to tell; for if, upon lifting out one of the combs, and one dead worm is found, they are all dead, for this stuff shows no favor, but kills all, big or little alike, and at the same or very nearly the same time. It is entirely different in this respect from the fumes of sulphur, for with sulphur, as those who have used it have probably noticed, the small worms are killed in much less time than the large ones; and if, as my experiments last summer lead me to believe, there is one grade or kind of bisulphide that will not injure section honey, it will be a great boon to bee-keepers in localities where moth-worms are as troublesome as they are here, for, except when they are quite small, it is impossible to kill them in comb honey with the fumes of sulphur unless the combs are treated long enough to become discolored, which, in the case of section honey, may injure or prevent its sale altogether; and after worms reach a certain size, say one inch in length, it is impossible to kill them at all with sulphur unless the combs they are in are treated so long that they become fairly green in color. But for some reason moth-worms develop much more rapidly in brood-combs than they do in section honey. On this account it is not so difficult a matter to keep the latter free of them by the use of sulphur, provided they are treated in time, and often enough so the worms do not reach much size; for when the worms are very small they can be killed by the fumes of sulphur without discoloring the combs in the least; but sulphur has no effect on the moth-eggs, and the great advantage of bisulphide to treat brood-combs is that it kills the eggs also, so only one treatment is necessary if the combs are afterward put where the moth-miller does not have access to them.—C. DAVENPORT, in Gleanings in Bee-Culture.

"The American Boy" for September.—The September "American Boy" contains 84 illustrations and the usual collection of interesting and profitable matter for its boy readers. It contains an illustrated description of the boys' gardens conducted by The National Cash Register Company, and two pages full of pictures and sketches of boys who are distinguishing themselves in school, in sport, and in business. The Agassiz Association occupies its usual page with interesting matter in the realm of natural science. The "Boys as Money Makers and Money Savers" department contains many hints to boys of how to make and save money, while the departments devoted to "The Boy in the Home, Church and School," and "The Boy in the Office, Store, Factory and on the Farm" are replete with good, practical advice to boys, young and old. $1.00 per year. SPRAGUE PUBLISHING COMPANY, Detroit, Mich. Send for free sample copy, and mention seeing this notice in the American Bee Journal.

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MARKET QUOTATIONS.

CHICAGO, Sept. 4.—The market is in good shape and choice lots of white comb honey bring 15c; good but not strictly No. 1 sells at 13@14c; amber, best grades, 12@12½c; dark, 9@10c. Extracted, best grade of white, 7½@8c; ambers, 6¾@7c; dark, 6@6½c. Beeswax, 28 cents, all in good demand.

R. A. BURNETT & CO.

CINCINNATI, Aug. 8.—The demand for extracted honey is slow, while the shipments are many. I quote as follows: White clover, 8@8½c; Southern and amber, 6½@7c. Comb honey sells as fast as it arrives at the following prices: Fancy, 16@16½c; No. 1, 15c. Beeswax, good demand, 25c.

C. H. W. WEBER.

BOSTON, Aug. 8.—Fancy 1-pound cartons, 17c; A 1, 15@16c; No. 1, 15c; No. 2, 12@13c. Extracted honey from 7½@8½c, as to quality.

It is too early in the season and too warm for any inquiry on honey, so prices named are only nominal. The prospects in this vicinity seem to be for a light crop. BLAKE, SCOTT & LEE.

KANSAS CITY, Aug. 30.—Fancy white comb honey firm, 12-section case, 15 cents per pound; 24-section case, 14c; No. 1 amber, 24-section case, 13@13½c. Demand good. Extracted firm at 6@8 cents, as to quality. Beeswax scarce at 35c.

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Successors to C. C. Clemons & Co.

BUFFALO, Sept. 5.—Fancy new 1-pound comb, 16@17c; No. 1, 14@15c; No. 2, 12@13c; No. 3, 10@11c; old, 8@14c. Demand quite good for season. Extracted, 5@6c. Beeswax, 28@33c.

BATTERSON & CO.

DETROIT, Sept. 7.—Fancy white comb, 15@16c; No 1, 13@14c; amber and dark, 10@12c. Extracted, white, 7@8c; dark, 5@6c. Beeswax, 25@26c.

M. H. HUNT & SON.

NEW YORK, Sept. 8.—Comb honey in good demand, all grades. Supply light, and arrivals sell readily at 15@16c for fancy white; 13@14c No. 1 white; 12c for amber and 10@11c for buckwheat. Extracted in fair demand at 7@7½c for white, 6½@7c for light amber; 6c amber, and 5½c dark. Beeswax firm at 28c.

HILDRETH & SEGELKEN.

SAN FRANCISCO, Aug. 22.—White comb, 12@12½c; amber, 9@11; dark, 6½@7½c. Extracted, white, 7½@8c; light amber, 6¾@7¼c; amber, 5½@6c. Beeswax. 26@28c.

Stocks continue light, and market inclines in favor of sellers. Indications are that the yield in this State is one of the smallest on record. Most of the business is of a light jobbing character, necessarily so on account of the limited offerings. Water white honey remains in slim supply, and dark honey is also scarce, spot supplies being principally amber.

WANTED—HONEY AND BEESWAX.

We have a tremendous and growing trade in this line, and would like to hear from all who have such goods to sell in any part of the country, with quality, description, and lowest cash price. THOS. C. STANLEY & SON, Fairfield, Ill.

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—FROM THE—

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DANIEL WURTH,

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Shipping-Cases, Root's No-Drip; Five-Gallon Cans for extracted honey, Danz. Cartons for comb honey. Cash or trade for beeswax. Send for catalog. M. H. Hunt & Son, Bell Branch, Mich.

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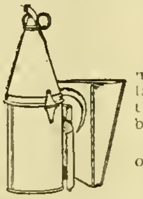

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Prices: Heavy Tin Smoke Engine, four-inch Stove, per mail, $1.50; 3½-inch, $1.10; three-inch, $1.00; 2½-inch, 90 cents; two-inch, 65 cents.

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Untested Queens, Italian, 60 cents. Tested, $1. From honey-gathering stock. We keep in stock a full line of popular Apiarian Supplies. Catalog free.

Apiaries—Glen Cove, L.I. **I. J. STRINGHAM, 105 Park Place, New York, N. Y.**

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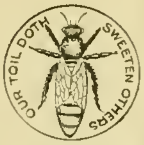
OUR TOIL DOTH SWEETEN OTHERS

OUR TOIL DOTH SWEETEN OTHERS

For sending us ONE NEW SUBSCRIBER to the Bee Journal for the balance of this year, with **30 cents**, we will mail you FOUR of these pretty buttons for wearing on the coat-lapel. (You can wear one and give the others to the children.) The queen has a golden tinge.

This offer is made only to our present regular subscribers.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate, it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

Prices of Buttons alone, postpaid: One button, 8 cts.; 2 buttons, 6 cts. each; 5 or more, 5 cts. each. (Stamps taken.) Address,

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AMERICAN BEE JOURNAL

OUR TOIL DOTH SWEETEN OTHERS

GEORGE W. YORK, Editor.

CHICAGO, ILL., SEPTEMBER 20, 1900.

FORTIETH YEAR. No. 38.

WEEKLY

DR. A. B. MASON,
Secretary of the National Bee-Keepers' Association.

F.B.WHITE CO. CH.

THE AMERICAN BEE JOURNAL.

PUBLISHT WEEKLY BY
GEORGE W. YORK & CO.
118 Michigan St., Chicago, Ill.

[Entered at the Post-Office at Chicago as Second-Class Mail-Matter.]

IMPORTANT NOTICES:

The Subscription Price of this journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50c a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "Dec00" on your label shows that it is paid to the end of December, 1900.

Subscription Receipts—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows you that the money has been received and duly credited.

Advertising Rates will be given upon application.

Reformed Spelling.—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

The Weekly Budget

THE CHICAGO CONVENTION PICTURE is now ready for delivery, and is a fine one. It is nearly 8x10 inches in size, mounted on heavy cardboard 10x12 inches. It is, we believe, the largest group of bee-keepers ever taken in one picture. It is sent, postpaid, for 75 cents; or we can send the American Bee Journal one year and the picture—both for $1.60. It would be a nice picture to frame. We have not counted them, but think there are nearly 200 bee-keepers shown.

****

MR. FRANK MCNAY called on us last week, when leaving for the West. For many years he has been one of the most prominent extracted-honey producers in Wisconsin, but now has removed permanently to Los Angeles Co., Calif. Mr. Harry Lathrop recently visited Mr. McNay in Wisconsin, and had this to say of him in the Wisconsin Agriculturist:

"Frank McNay, as many know, is one of the most extensive, as well as most successful, bee-keepers in the State. For many years he has kept from 300 to 500 colonies in apiaries situated sometimes as far as 100 miles apart. He has, in addition to producing honey in large quantities, bought and sold a good deal in recent years. His whole life since boyhood has been spent in the work of bee-keeping. But he informed me that he was about to sell out all his interests here and make his permanent home in southern California, where his family are already settled. He makes this change not in order to find a better bee-country, but on his family's account. But as he has workt hard for many years he finds himself in need of rest and a change and as a result of his good business management and faithful effort, he is financially able to retire from active life. With his removal, Wisconsin loses one of her most practical bee-keepers. He has written little but is ready in conversation and willing to impart useful information to any fellow worker. I was very glad of my good fortune in meeting this veteran bee-keeper before his departure. Mr. McNay informed me that he had kept bees on a certain field for 20 years, during which time there had not been a single failure of the honey crop. By actual record his annual yields averaged more for a long term of years than large apiaries in the famous honey-district of southern California. I am glad to know that our State, as a whole, is second to none, both in the quantity of its honey and the possible amount of productions."

****

MR. L. KREUTZINGER, of this (Cook) County, had his "annual honey harvest" last Saturday, Sept. 15, to which were invited a number of city guests to watch the taking off of honey, and to become acquainted with an apiary and its management. Of course, very few practical bee-keepers would follow this plan, and for excellent reasons.

****

"GOOD HONEY AND GAB did it." That is what Mr. J. T. Hairston, of Indian Territory, writes me in regard to his selling 3,300 pounds of honey in his home market inside of three weeks. Good honey and gab make a winning combination.—Bee-Keepers' Review.

****

"A. I. ROOT has discovered afresh that, the more one lives outdoors, the healthier one will be. He's making progress. Time was when he would smoke bees into the hive when they insisted on hanging on the outside," so says Dr. Miller, in Gleanings in Bee-Culture.

****

MR. C. M. SCOTT, of Marion Co., Ind., wrote us Aug. 6th: "Hurrah for the American Bee Journal. It looks fine in its new dress."

****

HERR THEODOR WEIPPL, editor for 10 years of the German bee-paper Bienen-Vater, has resigned. Herr Josef Schmuck is now filling the position.

BEST
Extracted Honey For Sale
ALL IN 60-POUND TIN CANS.

ALFALFA HONEY......

This is the famous White Extracted Honey gathered in the great Alfalfa regions of the Central West. It is a splendid honey, and nearly everybody who cares to eat honey at all can't get enough of the Alfalfa extracted.

BASSWOOD HONEY......

This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms in Wisconsin. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

Prices of Either Alfalfa or Basswood Honey:

A sample of either, by mail, 8 cents; samples of both, 15 cents—to pay for package and postage. By freight—one 60-pound can, 9½ cents per pound; two cans, 9 cents per pound; four or more cans, 8½ cents per pound. Cash must accompany each order. If ordering two or more cans you can have half of each kind of honey, if you so desire. This is all

ABSOLUTELY PURE BEES' HONEY,
The finest of their kinds produced in this country.

Read Dr. Miller's Testimony on Alfalfa Honey:

I've just sampled the honey you sent, and it's prime. Thank you. I feel that I'm something of a heretic, to sell several thousand pounds of honey of my own production and then buy honey of you for my own use. But however loyal one ought to be to the honey of his own region, there's no denying the fact that for use in any kind of hot drink, where one prefers the more wholesome honey to sugar, the very excellent quality of alfalfa honey I have received from you is better suited than the honeys of more markt flavor, according to my taste. C. C. MILLER.
McHenry Co., Ill.

Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

Address,
GEORGE W. YORK & CO., 118 Michigan St., Chicago, Ill.

Establisht in 1861
AMERICAN
BEE JOURNAL
The Oldest Bee-Paper in America

40th YEAR. CHICAGO, ILL., SEPTEMBER 20, 1900. No. 38.

Editorial Comments.

Location for Bee-Keeping.—It is not an uncommon thing for a bee-keeper to feel somewhat discontented with his location when he reads or hears of the advantages of some other location. But perhaps if all the disadvantages were as clearly set forth as the advantages, he would not be willing to exchange places. The talk upon the subject, on page 600 of this number, by "Uncle Lisha," may help to make some bee-keepers more contented with their lot.

Do Bee-Keepers' Conventions Pay? is a question discust by G. M. Doolittle in Gleanings in Bee-Culture. As sometimes conducted in former times, with not the best spirit pervading them, he thinks they do not pay. As conducted generally at present, they are paying institutions in three respects:

First of all, according to Mr. Doolittle, is the recreation, the social part, when flinging all care to the winds the bee-keeper goes in for a good time, meeting at one time and at small expense a number of his fellows whom otherwise he could not afford to visit.

Second, to learn from others many things brought out at a convention that would never appear in a book or bee-journal otherwise. Especially valuable are the little private talks between sessions.

The third advantage is that of seeing some of the latest improvements in bee-keeping implements.

Pasteboard Method of Introducing Queens has already been mentioned in these columns. Heretofore the Benton shipping-cage has had a cork in one end and the receiver pulled out the cork so as to allow the bees to eat out the candy and release the queen. Mr. Wardell, the queen-breeder of the A. I. Root Co., hit upon the plan of using pasteboard to cover the hole, dispensing with the cork. The candy comes out clear to the pasteboard, and a line of perforations allows the bees to reach the candy with their tongues, and then they gnaw away the pasteboard, making the queen's imprisonment lengthened by exactly the time it takes the bees to gnaw away the pasteboard. Editor Root says:

This method of introducing is no experiment. We have used it in our own apiary for a year back. Mr. Wardell, our apiarist, came to the conclusion that bees were eating out the candy too quickly, and sometimes releasing the queen before they had had a chance to become acquainted with her. He conceived the idea of nailing a piece of pasteboard over the candy, as a restrainer, which, from his knowledge of bees, he thought they would gnaw away. The scheme workt perfectly. He thought so little of the invention that he did not tell me anything about it, and I presume he had been using the method for some 6 months before I happened to blunder on to it—that is, I learned that he had made an improvement in the ordinary method of introducing by the candy plan. He continued using it with the greatest success; but, as he used it, it was in connection with the Miller cage, which used just the same principle as the Benton.)

Early this summer we applied the plan to all the Benton cages we sent out, and the results secured have been uniformly good. By the old plan, after the receiver of the queen had removed the cork, the candy had been so much eaten by the bees, in some cases, after a long journey, that the bees would sometimes release the queen in from 10 to 15 hours, which is altogether too short a time; but now these same bees spend from 12 to 18 hours in eating away the pasteboard before they get at the candy, and at the very least calculation it takes very nearly 24 hours before they can release their new queen-mother, and nine times out of ten it will be much longer.

I askt Mr. Wardell what percent of queens he could introduce safely by this method.

"Why," said he, "I do not lose any at all."

"Would it be safe," I askt, "to say in print, that at least 99 percent of the queens introduced by that method would be received and accepted by the bees?"

"Why," he replied, "if I were using the Miller cage I think I could guarantee a good deal *better* than 99 percent."

We have heard of many methods of introducing queens, but I do not think there has been anything yet devised that is so simple for the beginner and the average person to apply as the candy-pasteboard method. If the Miller cage is used (a flat oblong cage), and the colony has not been queenless for over four or five days, you can almost guarantee absolute introduction.

Hiving Swarms in Shallow Brood-Chambers is practiced by Harry Lathrop. In Gleanings in Bee-Culture he says he uses these shallow hives temporarily, returning the bees to the dovetailed 8-frame hives after the harvest is over. The season with him is so short that a swarm hived in a full-sized hive takes too long a time to get the hive filled before working in supers. The shallow brood-chamber he uses is of the same dimensions as the 8-frame hive, except as to its depth, which is 7 inches, the depth of the frame being ¼-inch less. He also has a cheaper arrangement which he likes. He says:

"It is a shallow brood-chamber made of common fencing, and having common lath nailed in the top—no frames. The lath are planed smooth, placed only a bee-space apart, and a close bee-space (¼-inch) below the top edge of the brood-chamber. The supers of finisht honey come off from these as clean as they were when they went on, even when used without queen-excluders."

Inexcusable Carelessness is often illustrated in the mail that we receive. For instance, last week, a subscriber who desired his copy of the Bee Journal sent to another post-office wrote us as follows:

"Please send my paper here.—Howe, Ind. Ter."

There was no name signed, and the former post-office was not given. We simply have to wait until he writes again.

A short time ago we received an order for a sample of honey, with the money enclosed, but no State was given. The post-mark on the outside of the envelop was too indistinct to read. Result—we had to wait until the correspondent wrote again, asking why he didn't get the honey sample.

Those who want to do any business with anybody else should never forget always to sign their full name and address to every communication they write. Or, get a rubber stamp with it all on and use that.

New Bee-Papers and Their Treatment.—In a recent Bee-Keepers' Review Mr. Hutchinson has a splendid editorial on this subject, nearly every word of which we can heartily endorse. It reads as follows:

> The death of a bee-journal a few months ago has been followed by a variety of comments in some of the other journals. Some of these criticisms have been written in a spirit that seemeth to say: "It's good enough for you. You ought to have known better than to have started a bee-journal." Other journals have condemned this style of comment. My own opinion is that the death of a bee-journal furnishes a fitting opportunity for pointing out the folly of embarking in such an enterprise, but it should be done in a kindly manner.
>
> There certainly is no need of any more bee-journals. The field is well covered; perhaps overstockt. If I should sell the Review to-day the last thing that I would think of doing would be that of starting another bee-journal; and I certainly would be in a better position to make a success of it than would some man who had had no experience in that line. If Bro. York should sell the American Bee Journal I doubt if he would ever think of such a thing as starting another bee-journal. I doubt if there is a publisher of a bee-journal in this country who would not find it well nigh impossible, even with his present capital and experience, to start in and build up a new journal. If this be true, what can a novice expect?
>
> The birth, growth and prosperity of existing journals have resulted from a peculiarly appropriate combination of men, time and circumstances. A successful bee-keeping editor must possess several characteristics. To understand bee-keeping alone will not suffice. Even a college education may not make of a man a good school-teacher. In the making of an editor there must be editorial instinct. To this ought to be joined a knowledge of printing and some taste in typography. This last is not so important, as good printers can be hired. I have, however known of a bee-journal being started because the owners of some job-office thought they could *print it so cheaply!* It is much easier to learn the printer's trade than it is to learn bee-keeping.
>
> I think that in justice to ourselves, and to those who may be thinking of starting a bee-journal, it should be made known that at present there is really no demand for another bee-journal; that to establish one would require an outlay of time, energy, skill and capital that, if invested in some other business, would bring far greater returns.
>
> Having said all this, it must be admitted that this is a free country. If a man believes that he can make a success of bee-journalism, he has a perfect right to put his time, talents and money into that business. We ought not to encourage him to start; but, if he *will* do it, there is a certain amount of courtesy due him as a brother publisher. I know of an ex-editor of a bee-journal who would not allow even the name of a new rival to appear in his journal.
>
> We need not exchange advertising space with a new journal unless we believe it to be to our advantage to do so; there is no call for us to pat the new editor on the back and urge him on to spend his last dollar in what we believe to be a losing venture, but the courtesies extended to a journal ought not to be proportioned according to its age or prosperity. No one ever *lost* anything by being polite, or even kind, to the new journal; and sometimes the new journal succeeds in spite of predictions to the contrary, and then the past favors become as bread cast upon the waters. The old, establisht journals can afford to be magnanimous in this matter. It creates a much better impression even among their own readers than does a course that savors of jealousy and selfishness. Don't encourage them to start; but, if they do enter the ranks, their position entitles them to our editorial courtesy.

To Prevent Swarms Settling in Undesirable Places is a desideratum. A swarm may settle in a place very high or otherwise difficult of access, and after the bee-keeper with immense pains has secured it, he is anything but pleased to see another swarm settle in the same place. For it is a very common thing for a swarm to settle on the same spot where another has settled on the same day, or the day before. Indeed, a number of swarms, one after another, are likely to choose the same spot for clustering. To prevent a second clustering in an objectionable place, it is recommended in Maehrische Biene to paint the place with carbolic acid.

Convention Proceedings.

Report of the Proceedings of the 31st Annual Convention of the National Bee-Keepers' Association, held at Chicago, Ill., Aug. 28, 29 and 30, 1900.

BY DR. A. B. MASON, SEC.

(Continued from page 581.)

Pres. Root—You have heard Mr. Niver's paper, what do you wish to say on this subject?

C. A. Hatch—Don't we have a paper later, on co-operation in selling honey?

Pres. Root—Yes, we have such a subject. It comes the last thing on the program.

Mr. Hatch—This seems to be in the line of that. I move the discussion of this paper be taken up at the same time that the subject is brought up on the program. (Motion prevailed.)

Pres. Root—We will pass to the next subject, by L. Kreutzinger, of Illinois,

BEE-KEEPING IN A CITY.

The following paper on city bee-keeping will mainly relate to that part of apiculture where bee-keeping is conducted on a large scale with three or more apiaries in a large city. The principal object in view is to enumerate its advantages and drawbacks in comparison with country bee-keeping.

Nearly every city bee-keeper runs his apiary for comb-honey production. The reason for this is the handy transportation facilities—the short distance to the market and stores, the very little risk, if any, of getting the combs broken or soiled while in transit—which enable him to deliver and sell his honey in the most perfect condition and in the neatest appearing packages or cases.

The country bee-keeper, especially one whose apiary is located a great distance from markets, and perhaps way off from any railroad transportation—who has his honey crop first to transport by wagon to the station, then have it unloaded in order to get the cases into the freight-car to be shipt to the point of its destination, whereby the unavoidable jarring may cause considerable damage thus marring the neatness of the cases, will risk no chances, and, in order to avoid such losses, will choose the more safe method of extracted-honey production.

While the city bee-keeper often encounters difficulty in finding a proper locality for an out-apiary, which, in order to answer all purposes must be somewhat detacht, yet not too much isolated, the country bee-keeper may locate his bees on almost any place on a farm without going to the expense of building sheds and fences.

The city bee-keeper has generally little trouble, if any, in selling all of his crop; people will call on him and buy his honey freely, being satisfied of its purity; they know it is pure, because they see him remove the honey from the hives, and therefore there can be no doubt or distrust as to its purity.

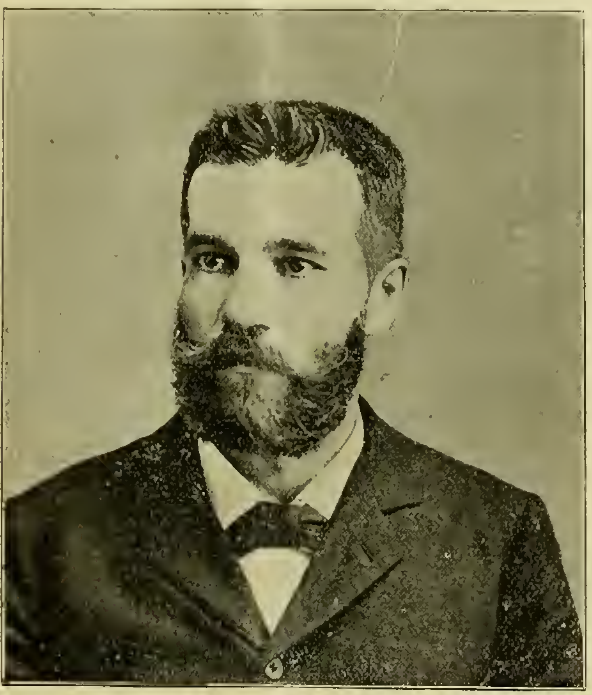
I wish to mention a method of creating a large demand for honey thru the medium of splendid advertising without cost. About a week previous to your intended honey crop harvest, send out notices to your friends and acquaintances inviting them to be present at the event, naming place, date and hour your friends will be welcomed; then, too, send one to each editor of the newspapers of your city. In turn you will find in their papers not only an announcement of the event, but they will also send their reporters, who will describe it more particularly, thus giving you lots of advertising—for nothing!

One thing is not to be overlookt—don't be prepared to start with the harvesting of your crop at that time, but have all things prepared when the occurrence is to take place—have the honey mostly taken off and packt and ready for sale; in other words, have your harvesting work nearly all done when you expect the crowd. As your friends will see you remove the honey from the hives, they will want some like they are offered to taste; you will therefore be kept busy with packing, and entertaining them by illustrating the workings of the honey-bee, and other matters of interest in the line of apiculture.

The country bee-keeper, unless he has a reliable agent or commission-house to handle his product, is more or less compelled to dispose of his honey by peddling it.

From personal experience and observation, I am of the opinion that the country bee-keeper is at an advantage over the city bee-keeper as to the quantity of the honey crop harvested. The continual dust, vapor and smoke in a large city settle more or less for miles around down upon all honey-secreting plants, and thus check the development of the nectar. The heavy and close atmosphere mingled with dense smoke is greatly detrimental to the development of plants and consequently their secretion of honey. Thus the city bee-keeper, under above-mentioned atmospheric conditions, but with otherwise exactly the same quantity and nature of honey-producing flora, is, in comparison with the country bee-keeper, at a disadvantage of about 20 percent in the quantity of honey gathered.

In conclusion let me add, that in order to round up the experiences in the pursuit of keeping bees in a city, another feature sprung up which to relate may be of interest to the bee-keepers. On Aug. 3d the writer hereof was served with a warrant for "unlawfully keeping and owning a great number of bees in such willful, wrongful manner that the aforesaid bees became, were, and are, a nuisance in violation of Section 1028 of an ordinance of the City of Chicago." The warrant was sworn out by a neighbor of one of the writer's out-apiaries. The first hearing took place before a justice of the peace in a suburb of Chicago the following day. Upon motion of the writer's attorney, the case was continued for several days. At the second the witnesses present testified to the vicious character of the bees, being a regular nuisance, having stung passers-by, a couple of horses, a dog, went into neighboring yards for water and grass to feed on, and did some other mischievous work! Upon hearing the testimony, the presiding judge, finding no fine provided for in the above cited section, dismissed the case.



L. Kreutzinger.

However, soon after another warrant was sworn to by the same complainant, this time for "keeping on the 8th day of August, 1900, and still continues to use certain premises known as No. 1791 Ainslie Ave., in said County of Cook, for the exercise of the honey-trade and maintaining 80 hives of bees which are offensive and dangerous to the health and public."

Thru the efforts of the writer's able attorneys, the judge pointed out the unusual and extraordinary character of the case, and askt, before rendering his decision, a week's time in order to look up matters and authorities, as the case required careful consideration. On the day set for the decision (Aug. 23d) the judge, first enumerating several decisions pro and con, rendered in similar cases, concluded his sentence with the following words: "The defendant is therefore discharged." L. KREUTZINGER.

Mr. York was askt to read the final decision of the justice in Mr. Kreutzinger's case, which is as follows:

STATEMENT FROM THE JUSTICE OF THE PEACE.

The counsel for defendant contends that the defendant should be discharged for three reasons, viz:

1st. That it is not a public but a private nuisance, and therefore a civil matter.

2d. That the complaint is insufficient.

3d. That the section under which the complaint is drawn does not apply to this case.

In regard to the first question raised by the counsel, there are a number of decisions upon the question, as to how many people a particular nuisance must affect before it becomes a public nuisance. In Hackney vs. the State, 8th Indiana, page 494, Judge Stuart laid down the law that is followed by all the text-books. He said, Every nuisance that is annoying to only a few of the citizens of the particular place, is a public nuisance, they being the public of that locality. It is a public nuisance if it annoys such part of the public as *necessarily* comes in contact with it.

In Illinois, Judge Shope said: It can make no difference that the number actually injured by the nuisance is comparatively small.

In regard to the second contention, I will say that the complaint as drawn follows the statute closely, and that is all that is required by the statutes.

The third contention, however, is a more difficult one. After careful study I do not feel justified in coming to the conclusion that the keeping of bees is covered by Paragraph 8, Section 221, under "Trades;" and the authorities make no mention of any agricultural pursuit, and the keeping of bees, in my opinion, ought to be so clast. Then, again, the heading of the paragraph in Starr and Curtis, and in Original Statutes, is "*Offensive Factories;*" and in "construing statutes," I take it that the heading governs where the meaning of the words are doubtful. And again, Paragraph 9 of the same section gives the municipal authorities full control of all nuisances not specified by statute. The intention of the legislature was to leave such matters to the municipalities.

The defendant is therefore discharged.

THOMAS EDGAR, J. P.

Pres. Root—The question is now open for discussion. Does any one wish to take it up?

N. E. France—We have a paper similar to that, "Bee-Keepers' Rights and their Protection by Law," on Wednesday afternoon. Might it not be deferred to that time and take it all up then?

Pres. Root—Do you wish to discuss any other phase of the question of bee-keeping in the city? Is there any one here who has knowledge whether flowers of any kind in the city are affected by smoke? This question was brought up six months ago in a convention which I attended, and much interesting discussion was brought out.

Dr. Mason—Don't in Toledo; we burn up our smoke.

G. E. Purple — I have more to do with the city smoke and dirt than any other one, I think; and as far as I can see, it does not affect the honey or the flowers, but it is a fact that after you have a drouth from a week to two weeks, the flowers get covered with dirt enough so that it stains any honey that may be left in the hive, enough so the entrance and the frames below will get quite black; but as far as the honey goes, that is as clear as any honey I ever saw from the country.

Mr. Acklin—Those two bottles of white clover honey on the table were gathered from flowers in the city.

Mr. Purple—I have kept bees in the country as well as city, and my present source of honey is sweet clover; after the sweet clover goes out of bloom, and after burdock commences to bloom, the latter seems to give the honey a sort of dark green look. That is where our discussion should come in the convention, whether white sweet clover gives a green or white honey. I noticed that particularly this year, that after burdock comes, then my honey begins to get green, and quite green, and then after that it is as white as any honey I ever saw.

Mr. Aikin—I would like to ask Mr. Purple a little more about that. Do I understand him to say that the honey gathered from sweet clover is a greenish color?

Mr. Purple—The honey that was as near as I could say collected from the straight sweet clover, beginning from the first of July, was white, but beginning from about Aug. 10th, when burdock began to bloom, it was quite green. I am sorry I did not bring some samples, but the sweet clover honey was about as white as any white clover honey I ever produced. Take it in a can a foot deep, I can see the bottom very plainly, a good deal like water.

Mr. Aikin—The reason I askt the question is this: In Colorado we have a Rocky Mountain plant called cleome, and one bee-keeper in particular comes up every year and talks about the green honey that he gets from cleome. Some of the rest of us don't get that colored honey from the same plant. It occurred to me here, where there is none of it, perhaps we don't know what causes the color in the honey, for they do have in that country some honey that is quite green. It is almost as green as is some of the honey I have seen down here in one of your stores that was said to be buckwheat honey. I don't know what is the trouble with the honey, but I do know it comes green in some cases, not only the honey, but the comb as well is green. That is all I can tell about it; I don't know why.

Mr. Kreutzinger—I wish to say that yellow sweet clover produces light white honey, while the white variety produces a greenish color.

Mr. Purple—May I ask Mr. Aikin if he has any burdock out there?

Mr. Aikin—I do not remember ever having seen a stalk of it.

Mr. Purple—I have lots of it in places, and it is a great honey-producer. I was anxious about it when I began noticing it; the bees will work very fast on it.

[Continued next week.]

Contributed Articles.

Further Particulars of Queen-Rearing.

BY W. H. PRIDGEN.

TO take up the subject where Dr. Miller left off in his reply to "Apis Mellifica," on page 470, allow me to say that as soon as the cells or cups are workt on a few hours, or from evening until morning, they are given to colonies to be completed, and the queenless bees placed back over the excluder to be ready for the same operation the next day. If one prefers it, he can tack wire-cloth to the bottom of a hive or hive-body (which?), block it up as the Doctor suggested, and transfer the combs, bees and all, from the upper story to it, and after the cups are accepted and disposed of, return the bees and combs to the story above the excluder; but the plan recommended above enables one to handle hives instead of frames.

The object in waiting 10 or 12 days after the cell-starters are prepared over the excluder, is for all the brood to be sealed, and to have a good force of young bees, as the Doctor says, as we want no unsealed brood with queenless bees that are expected to accept cups.

A few days ago, 54 cups were given at one time to the same bees, shaken from the combs, and confined 3 hours before, and 52 were accepted. Late in the evening of the same day, the batches of accepted cups were given to different colonies to be completed, and the bees were placed back over the excluder, whence they came.

To have the cups invariably accepted and given a send-off and shaping-up that they will get under no other treatment or conditions, give them to bees taken from a colony that has a laying queen and unsealed brood, tho it is not important that there should be unsealed brood in the combs from which the bees are taken, for just as good if not better results are obtained by shaking the bees from a few combs of a colony in a single-story hive, in a normal condition, into a ventilated hive, prepared with a comb filled with water, and several containing pollen and honey, than is the case when the upper story, as described, is transferred from over the excluder to a frame covered with wire-cloth, or an ordinary bottom-board with the most of the board cut away and the hole covered with wire-cloth. If bees are confined for this purpose, the ventilation should be at the bottom, and not far below the brood-frames or combs, as we want them to cluster on the combs.

The only disadvantage in getting the bees where there is a queen, is that the queen must be found, which often takes more time than it does to place the combs over an excluder, and then shake the bees from them.

Just so, the bees to be used as cell-starters are taken from a colony in a normal condition, and placed on combs minus unsealed brood, they will accept cups in from two to five hours. Such bees must be confined to prevent their deserting the hive, even if the queen and brood be taken away and the bees left on the old stand in the daytime, if other colonies are near, and they must be ventilated to prevent suffocation. With these facts to consider, every one can arrange matters to his own liking.

If one has trouble in fixing the cups so that they are readily accepted and has to resort to first giving them to queenless bees, when built over an excluder, the upper story of the cell-builders can be placed over the ventilator until the cups are accepted, and then place it back over the excluder, and the desired end is accomplisht, provided there be no unsealed brood in the upper story at the time; but it should not be forgotten that the shaking of the bees from the combs, even if it be into their own hive on the same combs, materially hastens the conditions for accepting the cups.

The only advantage in having the bees to be used as cell-starters above an excluder, is that they are ready for use at any time without having to look up the queen, and by the judicious use of excluders one can accomplish nearly everything pertaining to queen-rearing without having to find old queens.

I would have no idea of calling in the hired help and spending an hour looking for a skittish black, or any other kind of queen, when I could shake and brush the bees from all the combs in a few minutes, place them in another hive, and the hive containing the brood over the old hive, above an excluder, until the bees crawl up, and then take the bottom hive away and leave the top one on the old stand.

One comb of brood should be left below with the queen which will go towards forming a nucleus with the old queen, in case the object is to introduce a queen to the bees made queenless, and thus keep the old queen until the acceptance of the new one is assured. Warren Co., N. C., Aug. 1.

The Swarming of Bees—Experience.

BY F. GREINER.

NOT all Prof. Cook says on page 530 on the above subject is in perfect accord with my experience. For instance, he says: "Nearly all the bees that are mature enough to fly, including drones and queen, push out in the act of swarming." It seems to me that this is putting it stronger than the case warrants. On opening a hive after a swarm has issued from it, there will be found plenty of drones and quite enough worker-bees to carry on housekeeping quite decently. One may often see laden workers enter the hive during the act of swarming.

The Professor further says: "The queen rarely goes out until the last of the bees' swarming out," and, in substance: "The queen does not lead the swarm." The latter I think is just as the Professor says: The workers are the leading and deciding element in all the enterprises, undertakings and ventures of a colony, and it appears to me that the queen is chased or driven out of the hive when it is decided to swarm. According to my observation the queen is generally among the first half of the lot as they sally forth.

Prof. Cook places the time of bees swarming between the hours of eleven and two. In regard to this matter I wish to say: A great deal depends upon the weather and the atmospheric conditions generally. On a hot, sultry morning one may look for swarms much earlier than on a cool morning with a heavy dew. I have had swarms with old queens come forth as early as 6 o'clock in the morning, and then again as late as 6 in the evening. I want to be in my yard from 9 till 3, and then I sometimes miss it.

Swarms having virgin queens may come out at any time during the day, rain or shine, but of course the most swarming occurs during the midday period.

I have not been able to observe that the hight of the place a swarm selects for clustering depended on the queen, whether a virgin or a laying queen, a swarm with a virgin being more apt to cluster high. All I have observed, is, that a swarm with a feeble queen will always cluster low, sometimes on a weed or in the grass.

I agree with the Professor that it is very rare for a swarm to come out and not cluster at all. In 25 years I have had but a single case of the kind. The swarm came forth about 8 o'clock in the morning, and went straight for the hollow of a tall elm tree about one-fourth mile distant. My observation, like Prof. Cook's, points that way, that bees sometimes select a home before swarming, and, that after swarming they send out scouts to find a home.

On the next point I am at variance with the Professor. He says: "As many bee-keepers have observed, rarely several queens go forth with a new swarm." According to my experience it is not uncommon for several virgin queens to go out with a swarm. With me it has occurred frequently, and it occurs probably oftener than we are aware of, altho when it does happen the swarm frequently clusters in several different places near each other.

Toward the close of his article Prof. Cook says: "The bees guard the queen-cells, so that the first hatcht queen can not destroy the others." I am aware that other authorities claim also, that the first hatcht queen destroys or tries to destroy her rivals in their cells, but I have observed at different times that the young queen was in another part of the hive 3 or 5 combs away from where the cells were when the work of destroying cells was going on right along, and the virgin queen, which had her liberty, did not take any part in the murder of the innocent whatever. I suppose that queens will act the same whether in colonies that have swarmed or in colonies rearing or having reared a batch of artificial cells.
Ontario Co., N. Y.

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Please send us Names of Bee-Keepers who do not now get the American Bee Journal, and we will send them sample copies. Then you can very likely afterward get their subscriptions, for which work we offer valuable premiums in nearly every number of this journal. You can aid much by sending in the names and addresses when writing us on other matters.

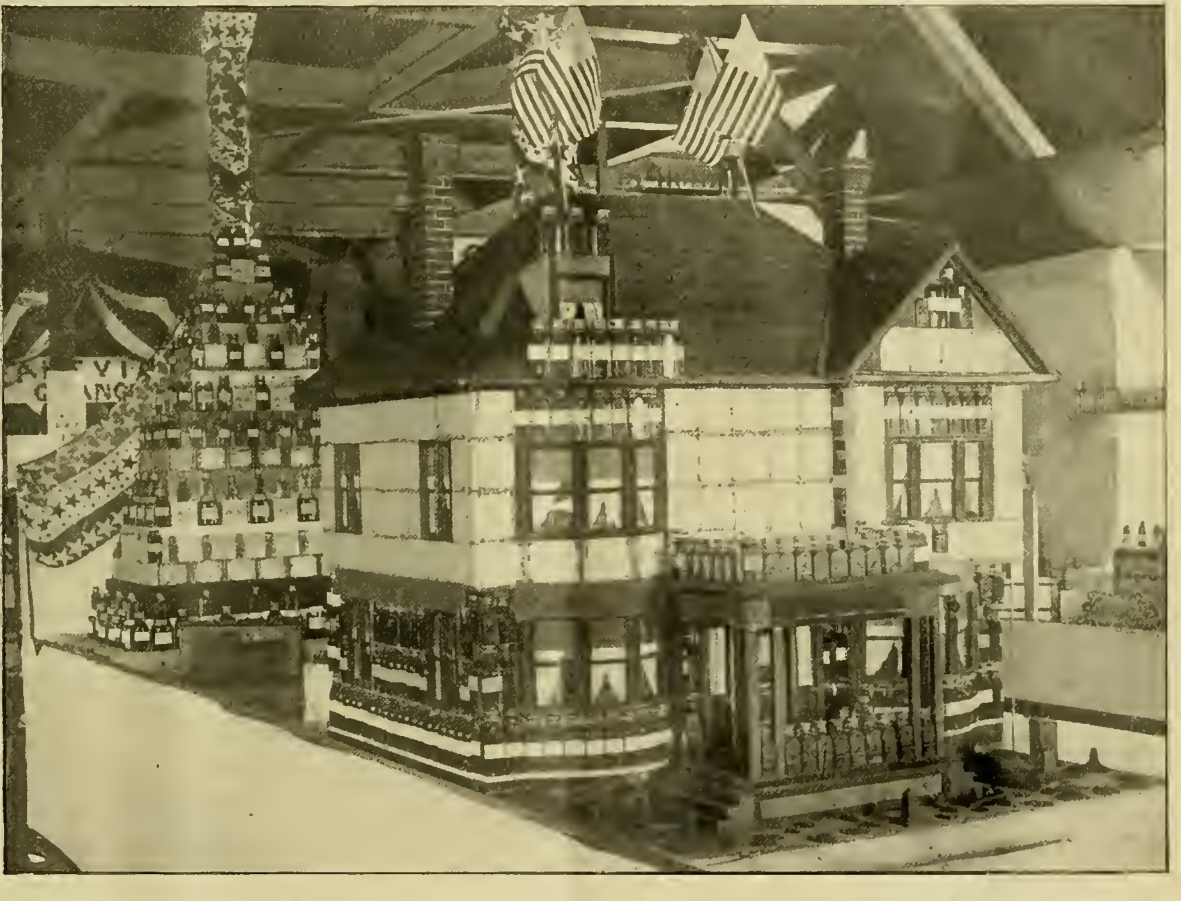
Exhibiting Bees and Honey at the Fairs.

BY F. L. GRANT.

THE first, and by no means the least, as regards the work, is in getting ready. Perhaps one has to lie awake nights to think of something new so as to get ahead of the other fellows. This is not easy work; it is rather trying to the nerves and sometimes discouraging; especially when we call to mind that it is likely that the other fellow is doing the same thing.

After we have decided what is to be the leading feature of our exhibit, then comes the "grind," the working out of the details and getting them into shape so as to please the eye of the judges and visitors. This is very important, for our success in winning premiums, and the disposing of our crop of honey at good prices is largely dependent upon this.

Whatever there is in the exhibit that is in the line of novelty should be so constructed that it can be put together in sections, to save time, which is very limited in the rush of setting up and taking down, especially the latter.



Apiarian Exhibit of Mr. F. L. Grant, at the Lewiston (Maine) Fair—(From Bee-Keepers' Review).

All wax-work should be as nearly in place as it is possible to box it. The roof of the honey-house in the accompanying cut of my exhibit at the Maine State Fair, of 1898, consists of beeswax shingles which were cut from sheets of brood-foundation. They were glued to a very thin boarding on the roof, which, in this case, came apart in six sections. The boards were also covered with paper so as to make the wax adhere to them more firmly. The wax-work of the roof and other parts were shipt with soft packing between them.

The windows were made whole, and were shipt in a separate box packt with great care. The walls of honey were supported by a frame-work made from 1¾x1¾ joist fastened together with bolt and screws. The name, "Sweet Home," at the top, consists of beeswax letters suspended by silk thread. The distance from the table to the top of the flags was about seven feet, and the length of house about six feet.

As the picture shows many of the details of construction I will not say any more on that point, except that every part which does not show honey or glass, consists of wax-work. The table on which my exhibit was placed is 22 feet long. The pyramid at the further end is about eight feet high, and seven feet wide. This pyramid is nailed perrmanently in place so that it will be there ready for use every season; thereby saving much time in getting the honey in place.

That space in front of the pyramid, of which only a part can be seen, was taken up by a display of bees and implements. A part of the counter, from which the honey was sold, is shown just in front of the wax arrangements by the portico of the house.

After having the leading feature of the exhibit packt and ready for shipment, the next move is the packing of the honey so that it will arrive at the grounds in good condition. This is of great importance. I know of one man who shipt quite a quantity of it, and it was nearly all broken. I think the most successful method of shipping honey, unless in very large quantities, is to tie the comb honey in bundles, two cases with glass in a bundle; the ropes which cross the top case in the center serving as a convenient place for the hand in lifting.

With extracted honey, the cans or bottles should have folded paper packing between them, running each way. They should also have a heavier packing around the sides; and at the top and bottom there should be very heavy mats of the same material. In fact, the secret of successful packing is in having the jars fit perfectly tight. I have had a box containing 24-pint Mason jars filled with honey fall into the street from the top of my load without cracking a single can. I find that a box which will contain about 40 pounds of honey in jars is the best package for shipping.

In shipping my honey I do not send it directly to the fair grounds; for the goods are so roughly handled at that point, and the railroad company will not be responsible for damages. I have it shipt to the city, about two miles further on, where it is more carefully handled. It is then conveyed by means of truck teams back to the grounds.

I manage, if possible, to arrive at the grounds two or three days before the fair commences, so as to have plenty of time in setting up the exhibit.

I always carry a cot bed with me so that I can camp down right beside my table. This makes it far less expensive for us than if we paid $1.00 per night for lodging. During the day we keep our bedding under the tables; and, by the way, I think it is a very good plan to have as many boxes as possible of a size that will slide under the table easily, for then we are sure of having them when we get ready to repack the exhibits.

If an exhibitor is going to sell honey during the fair he should be particular to arrange the exhibit so that the leading feature shall be as near as possible to the counter from which sales are to be made; for there is where the visitors become interested, and interested visitors make good customers.

In conclusion, I will say that any one who is intending to enter this department of the bee-business should be prepared to meet the many disappointments which will arise, and to take them as a matter of course.—Bee-Keepers' Review.

Somerset Co., Maine.

Selecting Locations for Bee-Keeping.

BY "UNCLE LISHA."

So we all began to discuss locations, as bee-keepers will. Of course, Charley Atkins thought Cuba the bee-keeper's paradise. But I told him of the long continued heat and the worse dampness; the insects, the lack of good society, etc.

"Well," said Charley, "I think I can stand the heat, and I guess there aren't any insects much worse than the bees themselves; and as for society, my wife is as good society as I want."

"Good!" said Deacon Strong. "I like to see a man stand by and appreciate his wife; but did you ever think your wife may not be able to remain there long? I have known a good many families to go no further south than Florida, and it would not be many years before their wives or daughters, or both or all, would be coming North to visit; and they would visit all their brothers and sisters, and uncles and aunts, staying at each place a good long while. They seemed to have learned the art of sitting to perfection, and lookt so contented like when sitting, as tho they had kind o' grown to the chair. And pretty soon the head of the family would come, too. His skin was several shades darker than when he went South. He usually goes into ecstasy over our invigorating climate, and thinks he would better stay. And as for insects, I met a bee-keeper from Florida a few years ago, a regular cracker, as Northern folks call them, and I askt him what kind of place it was in Florida for bee-keeping. 'Well,' said he, 'it is a perty good place over on the Indian River, where there are plenty of orange-groves and mangrove. The mangrove gives lots of honey, and of pretty good quality, when the frost doesn't kill it;' but then he thought of some of the vexations even in that favored locality, and added, 'But there is one trouble in keeping bees in Florida, when you handle your bees you have to wear a bee-veil to keep off the mosquitoes.' So you see there are troubles, even in that land of flowers."

"There is another thing; we must not forget about locations," said I. "If there is a big yield in any section of country, we hear of it and are apt to think that the best place in the world. One year Mr. Manum, of Vermont, had an enormous yield of honey; yet now, owing to cutting down the basswood, and other causes, the yield of honey is scarcely large enough to make bee-keeping pay, and he is turning his attention to fruit and garden truck. A place may be very good one year and very poor the next. They seem to get pretty good crops in the buckwheat sections of New York, but sometimes the buckwheat fails to yield honey, and it almost always sells for less than white honey. I have always thought the central parts of Vermont were very poor for honey; yet Mr. M. F. Cram, secretary of the Vermont Bee-Keepers' Association, had, last year, I believe, the largest crop of honey of any person in Vermont, and perhaps in New England, and he had a fine crop the year before. He lives in a queer place to think of making bees pay. I made him a visit last summer, and found to my surprise he lived near the top of a great hill. After walking up what is known as Cram Hill until I perspired profusely, and was not a little weary, I found his place. I am afraid I wasn't very polite; for, almost as soon as I found him, I accused him of being pretty well stuck up. He said he didn't think he was, as he was only 2,000 feet above sea-level, which he considered very moderate. Here he makes it pay in producing choice honey that he sells for prices that might please any bee-keeper at the present time.

"Then there is California; but they have drouths, or dry years, and many of the bee-keepers have to leave their families and bach it, as Rambler does; and while some years they get large crops, it doesn't sell as high as our honey right near the markets—at least, doesn't net them so much. In Colorado they are already overstockt with bees, and so it goes."

"I guess," said Deacon Strong, "finding a good place to begin bee-keeping is a good deal like finding a good place to begin to be a Christian. Some folks seem to think it would not be difficult if they were only living among strangers, or were out West, or following some other occupation; but I believe there is no better place than right where you are. Most of our successful bee-keepers began right where they were, and have made the business pay."—Gleanings in Bee-Culture.

York's Honey Calendar for 1900 is a 16-page pamphlet especially gotten up to create a demand for honey among should-be consumers. The forepart was written by Dr. C. C. Miller, and is devoted to general information concerning honey. The latter part consists of recipes for use in cooking and as a medicine. It will be found to be a very effective helper in working up a home market for honey. We furnish them, postpaid, at these prices: A sample free; 25 copies for 30 cents; 50 for 50 cents; 100 for 90 cents; 250 for $2.00; 500 for $3.50. For 25 cents extra we will print your name and address on the front page, when ordering 100 or more copies at these prices.

Belgian Hare Breeding is the title of a pamphlet just publisht, containing 10 chapters on "Breeding the Belgian Hare." Price, 25 cents, postpaid. It covers the subjects of Breeding, Feeding, Houses and Hutches, Diseases, Methods of Serving for the Table, etc. It is a practical and helpful treatise for the amateur breeder. (See Prof. Cook's article on page 292.) For sale at the office of the American Bee Journal. For $1.10 we will send the Bee Journal for a year and the 32-page pamphlet on "Belgian Hare Breeding."

The Premiums offered this week are well worth working for. Look at them.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Granulated Honey in Extracting-Combs.

Some of my extracting-combs are filled with granulated honey, and the extractor will not throw it out. What can I do with them? SOUTH CAROLINA.

ANSWER.—If you do not want to melt the combs you can feed to the bees. If you give them to the bees just as they are, they will throw out and waste some of the granules. Spray them well with water, and the bees will use all. It may be necessary to repeat the spraying after the bees have used part. You might try Mr. Aikin's plan of wetting: Take a tub or other vessel large enough, and dash the comb down into it violently several times.

Queenless Colony—Late Swarming.

1. I am just a beginner, and I have had fine success so far. I have a colony which I discovered to be queenless about two weeks ago, and as I have been very busy I did not do anything for them. On Aug. 21st a swarm of black bees came and clustered on a tree right over my bee-yard. As it was a very small swarm (about a quart), I got the queen, and, caging her up with about 20 of her followers, I placed her on the frames in the queenless colony, and dumpt the rest in front of the hive, and as they went in I gave them all a good smudge of smoke. On Aug. 24th I liberated the queen, and they seemed to accept her all right. Did I do right?

2. Will this colony send out a black swarm next spring? The others were Italians.

3. Isn't it odd for bees to swarm at this time of the year? or is it a frequent occurrence? ILLINOIS.

ANSWERS.—1. Your procedure was all right. Very likely it would have been all right without caging the queen, but caging made it safer.

2. Yes, when a swarm issues it will be black, just the same as if no Italians had ever been in the hive.

3. While not common, it is not a very rare thing for bees to swarm even later. Sept. 3, I found hanging on a tree a fair-sized swarm this year.

That Queen Experience—Laying Workers.

I did not say that the queen was dead, but that the bees were preparing to supersede her. In 3 or 4 days after I introduced her (the bees would not gnaw at the card), she began to lay an egg here and there, and in a few drone-cells she would put 2 or 3 eggs. In a few days the bees built queen-cells and put eggs in them, or she laid in them. She did not lay any more until I took the queen-cells and eggs from them, then she laid a few more, and they began again to build queen-cells. I let them seal one of them. She did not lay any more until I took the eggs and cells away. I took away part of the bees, altho there was not more than half enough for a strong colony, at first. She did not lay, up to 3 days ago, enough to fill ¼ of a frame, nor did she enlarge in size visibly. She has now commenced to lay consecutively, and I think looks better. She has laid a patch on both sides of comb half as large as a hand. The bees seem to be working better, I think, by promptly removing their queen-cells and what few eggs, thwarted their purposes of supersession. I know it has so far, and will continue to do so if they build any more cells. Is it not possible that bees, after they accept a queen, change their minds? No, Doctor, there were no laying workers in the matter. I have had experience enough with them to know something of their ways! INDIANA.

ANSWER.—This is the case referred to on page 568, and from the letter there given I supposed the queen was dead. In that I was mistaken, but I still think laying workers were present. One of the first signs of laying workers is to find an egg in a queen-cell, and if more than one egg is in a queen-cell, that settles it. I have never known a queen, I think, to lay more than one egg in a queen-cell, altho she may in a worker-cell. It is by no means an uncommon thing for a queen to be held in contempt for some time, and then make good work afterward. I have known cases in which she was not allowed to lay until a week after being put in the hive. If laying workers are present, her chances are rather poor.

Chapman Honey-Plant Seed.

Where can I get some seed of the Chapman honey-plant (Echinops spherocephalus)? WISCONSIN.

ANSWER.—When the boom of this plant was at its hight, there was no difficulty in finding the seed, but at the present time I don't know where you can get any. I had quite a plat of it, but at present not a plant, and have some doubt whether any one who has tried it in this country thinks it worth cultivating.

Queen Killed in the Cage.

The queen came and was introduced according to directions in an out-apiary. The fourth day afterward I opened the hive and found the queen dead in the cage. If killed by the bees, it is the first instance under my observation where the queen was killed in the cage. The queen seemed in fair condition when received and introduced. I am at a loss to account for it. NORTH CAROLINA.

ANSWER.—It is unusual for bees to kill a queen in a cage, but there is no reason why they might not. Possibly, however, the thing is more common than generally supposed, for the queen might be killed in the cage, and then dragged out by the bees before the hive was opened.

Shade for Bees—Bee-Moths, Etc.

While I have been taking the American Bee Journal (about two years), I have not noticed much in it about location, shade, etc. Now, I wish to ask a question or two:

I have a lot 50x150 feet, which I wish to put about 35 colonies of bees on next spring. The street is on the west, buildings on the north, a grove on the east, a 6-foot board fence on the south, and a few trees on the west side. I would put the bees on the east one-half—50x75 feet.

1. Is it shaded too much?

2. Will the bees, while having to rise directly over buildings, grove, and high board fence, store as much honey as if their start was on a level?

3. The bee-moths make me lots of trouble. Can you give me any advice about them? You will likely say, "Keep your colonies strong." They are. My bees are black or brown. You may say, "Get Italians;" but I don't want them. I think what I have store more honey, especially in supers, than the Italians. I have had both. MINNESOTA.

ANSWERS.—1. Unless the shade is so dense as to make the place cold and damp, it is probably all right.

2. They will do just as well.

3. Aside from keeping bees strong and having Italians, it will be well to take care not to encourage the breeding of moths by allowing old combs to lie around, and some help may be given by digging out the worms in the combs by the aid of a wire nail. If you will pardon my saying so, I venture to say that if your bees have not enough "git up and git" to keep the worms cleared out, they are not as good bees as you might have, either for keeping moths at bay or for gathering honey. All blacks are not alike, and all Italians are not alike, nor for that matter all hybrids, and it may be that the Italians and hybrids you had were not up to the mark.

"**The Hum of the Bees** in the Apple-Tree Bloom" is the name of the finest bee-keeper's song—words by Hon. Eugene Secor and music by Dr. C. C. Miller. This is thought by some to be the best bee-song yet written by Mr. Secor and Dr. Miller. It is, indeed, a "hummer." We can furnish a single copy of it postpaid, for 10 cents, or 3 copies for 25 cents. Or, we will mail a half-dozen copies of it for sending us *one new* yearly subscription to the American Bee Journal at $1.00.

The Afterthought.

The "Old Reliable" seen thru New and Unreliable Glasses.
By E. E. HASTY, Richards, Ohio.

FUMIGATING WITH BISULPHIDE OF CARBON.

That is a large-sized hope which is held out in the editorial on page 505. Of course, nobody desires to protest against it—only let nobody mistake a not yet settled matter for a settled one. To give an unpleasant taste or a green-yellow tinge to a great heap of choice sections would hardly be fun; so be sure (in a small way) that the bisulphide your druggist furnishes *you* does no harm before you run large risks. Desirably convenient to kill the small worms in sections it doubtless is. I have a suspicion that *bees*, and not chemicals of any kind, are really the proper agents to destroy said little worm villains.

MR. ANDERSON'S DANISH-AMERICAN APIARY.

Mr. Anderson proves, on page 497, that a Danish-American apiary looks very much like a nice straight-out American apiary. The objection to regular unbroken rows, which seems at first sight to lie against it, is really removed for the most part by those little trees. They practically divide the thing up into sections of about three hives each.

CREATING A DEMAND FOR HONEY.

How nobly up-to-date and scientific is C. Davenport's question on page 497! "Why isn't the demand and consumption greater"—of my honey? Blind scratching and kicking around are not likely to remedy things like intelligent effort along the lines of the answer to that question. First find causes, then remove them, rather than wrestle with the inevitable effects. Some of the strong reasons, however, are not easily removable; for instance, the multiplicity, excellence, cheapness and handiness of other dainties on sale, especially sweets. Instead of trying to remove a cause like this sometimes one can remove self and honey—to a country road, where the cause does not operate so strongly. Glad he succeeds so well with local advertising as a means of removing the two greatest reasons, suspicion, and "out of sight out of mind."

BOKHARA THE SAME AS SWEET CLOVER.

Some of the readers of page 499 probably puzzled their heads with the question, What *is* Bokhara clover? The writer (using both terms in his article) omitted to state that Bokhara clover and sweet clover are the same.

If cattle (or we) ate all that the chemist finds plenty of nutriment in, our respective diets would be rather queer. On that point chemical analysis is good as far as it goes; but it must not be expected to go very far, certainly not so far as to dictate to the animal stomach.

THE CELL-CUP BUSINESS.

Say, Mr. Pridgen, if you don't look out some of the outsiders will be stampeded with the idea that your neat and wholesale arrangements are really to dip *honeycomb*, to put fabricated honey in. *They* will hardly be able to see how so many queen-cells should be needed. Your soakt board on which to shape and cool goblet bases is further evidence of ingenuity—if any were needed. Page 499.

"LARGE HIVES" AND A BISCUIT HONEY-MOP.

Mr. Davenport's hive "eight feet square" sounds as if squinting toward the importation of another enormous species of bee. And that stingy Texan, who used biscuit to mop up the last stray drop of honey, when he (in verisimilitude) "robbed his bees"—well, a room just about the size of that bee-hive, with a cross-bar window in it, seems to be what he is steering for. Page 501.

SWARMS OF B'S.

Many years ago some one got up a large and cunning swarm of B's—and it was a good one. Unlike other bees, they seemed to do the most good by emigration, and being found ever and anon on a new bush. Well, when I saw the "Swarm of B's" at the head of "General Items," page 506, I supposed it was the same eternal, wandering swarm, and came near not reading it. Lo, a new swarm, good as the old one. Thanks to the nameless somebody who made all these B's, notwithstanding his "Miss B Haviour."

A HINT TO BEE-SUPPLY FOLKS.

That was an extra-good talk that Mr. DeBusk gave the bee-supply folks on page 506. His strong sentence, "The beginning of every transaction is in part wrong," ought to settle into their minds and souls. We can not see what we are getting. Because we are at their mercy they ought to be merciful—supposing, of course, they really want to do the fair thing, which most of them do. Considerable improvement would result, I imagine, should each dealer soberly ask himself, Would my customer buy this if he could see it before he bought?

CHUNK HONEY IN THE SOUTH.

Did you ever? So prominent a man as E. J. Atchley producing and advocating chunk honey! Still, if the Southern market calls for it, and will have it, perhaps Mr. A. is all right. That it can be shipt in cans with no such smashage and leakage as sections often incur, is a strong point in its favor. It seems it does not mash itself up so badly if extracted honey enough to fill up all the crevices is put in—and thus 20 percent or so of extracted is workt off at the same price. Wonder how they open and close their cans. Page 516.

KEEPING VIRGIN QUEENS.

So Mr Doolittle finds that virgin queens can be kept nearly four weeks unmated, and yet become fertile eventually; but such have always been very poor queens. Probably he is right as to the reason. A queen put alone will worry herself to death in a few hours; and it is very reasonable to suppose that worrying about captivity when she greatly desires to go out, altho it does not kill her, damages her constitutionally and vitally. Page 514.

TWO COMB-FOUNDATION ITEMS.

From the editorial review of Prof. Gillette on comb foundation, I cull two items to hold up one more time: Natural midrib at some times is almost twice as heavy as at other times. No foundation midribs are thinned down quite as thin as natural ones. Page 520.

BEES AND THE KORAN.

Were it not for the general reliability of the British Bee Journal, I should *almost* be tempted to think it had been taken in by an interpolated copy of the Koran. Even if the quotations on page 521 do come from a standard copy, I still don't get quite rid of the idea that some writer later than Mohammed (and less shrewd) has been interjecting his own notions as he copied. Take these words as a test: "European bee-keepers call them drones." Just think once what Europe was early in the seventh century. How should an Arab know what European bee-keepers thought—or care to mention opinions from such a sunken barbarian hole, in case he accidentally knew? (I'm clearing the road, don't you see, to believe the book in case I want to believe?) Granting authenticity both ancient and modern, we have here a strong example of an able man going out of his field, the religious field, quite needlessly, and getting into the mire—like all who do their trades forsake. What fatal spell is it about bees which has made all men take leave of their senses when writing of them? Why do even wise men claim, practically, that they know all about them when they know almost nothing? It does look a little imposter-ish and shrewd to tell that bees all come home at night on the eve before the Mohammedan Sabbath, but not on other eves. Every once in awhile some one would watch to see if a lot of bees came in before any went out on Friday morn, and not seeing them (naturally he would not, as it is rather rare) he would be much strengthened in the true faith—and most likely would not test the other mornings of the week. Even should he see lots of early bees Friday morn it would be easily said, Satan moved somebody to capture a lot of your bees, and let them loose at an hour to mislead you.

PREVENTING THE TEARING OF CAPPINGS.

On page 527 I wonder if Mr. Hairston is right, that bees in famine-time leave a super of honey with less waste of time if a little honey is poured on the escape-board introduced. If so, why? I'll guess that the honey gives them the impression and feeling of business and prosperity, and thus causes them to act more as they would in prosperous times. In robbing times naturally the normal feeling is "hold the fort" and fight. That the fluid honey below would save some tearing of cappings, one almost knows without trying.

ROOT COMPANY'S PAGE.

A $200 Red-Clover Queen at Last !

We finally have her, and she seems to be fully equal to our red-clover queen of years ago. The colony of this queen has given one of the most remarkable showings on red clover of any bees we have ever had, notwithstanding the stock has been robbed repeatedly of young larvæ for queen-rearing. The queen in question is an imported one, and, therefore, of the genuine pure eather-colored Italian stock. We have been sending out daughters from her all the season, but we had not discovered her value until the clover season, second growth, came on, and then her colony so far out-distanced all the other 450 that she attracted attention at once.

We can not sell her daughters untested any more for 75 cts.; but when taken with Gleanings we will sell them for $1.00 ; that is to say, we will send Gleanings one year, and an untested red-clover queen from this $200 mother for $2.00 ; a tested queen of this same stock, and Gleanings one year, for $4 ; or a select tested and Gleanings for one year, $6.00. These queens will be sold only in connection with Gleanings.

Atho these queens have been offered only a week there is a great demand for them, and therefore we can only guarantee that the orders will be filled in rotation and sent as fast as they are ready to send out. Those who send orders immediately will stand the best show of getting stock at once. We can not guarantee to supply, this season, select tested stock, as we may not have it, as such queens will necessarily be limited, but we *think* we can furnish all that will be called for.

It must, however, be understood that these queens are not golden yellow, neither are their bees of the five-banded stock. They are simply leather-colored Italians whose mother came direct from Italy. Those who desire queens of this stock had better get them this season, as the queen may die this winter. At the present time we are setting aside some of her choice tested queens for next season, to test for our own use.

SHIPPING-CASES.

Our No-Drip Cases are still in the lead. We keep constantly on hand a large assortment from 12-pound size up. We also make special sizes to order.

That Root's Cases are in demand is shown by the fact that one dealer alone has ordered 16,000 this season.

SPECIAL GOODS.

This is the time when you should order odd size or special goods. Our busy season is over and we can do almost any work in wood you want, either for bee-keepers or others.

We make a specialty of packing-boxes, from the size of a section-box up. Let us figure with you.

FEEDERS.

How about your winter stores ? Are you sure your bees have enough ? Should it be necessary to feed you can't do it easier than with our Division-Board Feeder. This is made to hang like a frame in a Langstroth hive. Price, 20 cents each, complete. Less in quantities.

Honey-Labels.

Do you use labels for your honey ? Are they really ATTRACTIVE labels ? If you do not you may be losing many sales because your honey lacks attractiveness. You can't expect to market your honey at the best price unless you use every care in putting it up. Send for our label catalog and see our 1, 2, and 3 color labels.

Tin Packages for Honey.

If you are one of the people who market extracted honey in small lots you will find our pails just what you want. A dozen sizes and kinds to select from. We also furnish square cans —1-quart, 2-quart ; 1-gallon and 5-gallons. A single can or carload, as you wish. Write for prices.

Gleanings in Bee-Culture.

When our advertisers write us that their advertisements have paid them well, we know GLEANINGS IN BEE-CULTURE must be read by the best bee-keepers. We know, too, that GLEANINGS is appreciated, for our circulation is increasing all the time. Send 25c for a six months' trial and get A. I. R's Notes of Travel and hundreds of other interesting things.

Comb-Foundation Mills.

Perhaps you are so far from us and rates are so high that you want to make your own foundation.

Our mills are being improved constantly. If you want to purchase a foundation mill, send for package of samples showing different styles we can furnish. Send 2c stamp for these.

Bushel Boxes.

Bee-keepers are always looking for labor-saving ideas. Have you ever read our 16-page pamphlet, "Handling Farm Produce ?" It is full of information and gives prices of bushel boxes and other things. Free for the asking.

HONEY-EXTRACTORS.

"**Operator No. 6** puts the honey-combs in the extractors, which is a **Cowan** 4-frame reversible, with ball-bearings and lever-brake — in short, the **best extractor on the market**."

Extract from article of N. E. France, of Wisconsin, in June Review. No one is better qualified to judge the worth of an extractor than Mr. France. He says the ROOT COWAN IS THE BEST.

Thousands of others say so.

Glass Honey-Packages.

We have all sizes of Mason Jars with aluminum or porcelain-lined caps. Also Jelly Tumblers, two sizes ; Glass Pails, four sizes ; and Self-Sealing Jam Jars. Besides these we still have the four sizes square jars, which have long been on the market. Don't forget us when you need glass packages for honey.

RUBBER STAMPS.

Have you ever thought how handy it would be to use a rubber stamp to mark your honey-cases, showing the grade ? Then, too, if you sell in the home market you ought to have your name on the case so it would be returned. We make stamps of all kinds for all sorts of purposes. Let us send you our rubber stamp circular.

WINTER-CASES.

Our Winter-Cases are made of thin lumber dovetailed at the corners, with a telescope cover.

The cost is only 75 cents each singly, yet for convenience they are unsurpast, and only excelled by the chaff hive in the protection afforded. Don't let your bees winter-kill or spring-dwindle when you can avoid it by using our Winter-Cases.

HONEY.

We buy a number of carloads of comb and extracted honey each year. If you have secured a good crop send us your offer. You don't have to worry about the returns if you sell to us.

If you have extracted honey send sample. If you have failed to secure enough for your home market, let us supply you. We have honey engaged all over the country, and can ship direct from the producer, many times.

AGENCIES.

A list of our principal agencies will be mailed you on request. We can ship from stock such items as our regular Hives, Sections, Foundation, Extractors, etc., from these agencies.

Send your order direct to us, if you prefer, and request that we ship from nearest point, and we will do so, saving you freight charges and giving you quick delivery.

THE A. I. ROOT COMPANY, Medina, Ohio.

The Bee-Keeper's Guide

Or, Manual of the Apiary,

—BY—

PROF. A. J. COOK.

460 Pages—16th (1899) Edition—18th Thousand—$1.25 postpaid.

A description of the book here is quite unnecessary—it is simply the most complete scientific and practical bee-book publisht to-day. Fully illustrated, and all written in the most fascinating style. The author is also too well-known to the whole bee-world to require any introduction. No bee-keeper is fully equipt, or his library complete, without THE BEE-KEEPERS' GUIDE.

This 16th and latest edition of Prof. Cook's magnificent book of 460 pages, in neat and substantial cloth binding, we propose to GIVE AWAY to our present subscribers, for the work of getting NEW subscribers for the American Bee Journal.

Given for TWO New Subscribers.

The following offer is made to PRESENT subscribers only, and no premium is also given to the two NEW subscribers—simply the Bee Journal for one year:

Send us TWO NEW SUBSCRIBERS to the Bee Journal (with $2.00), and we will mail you a copy of Prof. Cook's book FREE as a premium. Prof. Cook's book alone sent for $1.25, or we club it with the Bee Journal for a year—both for only $1.75. But surely anybody can get only TWO NEW SUBSCRIBERS to the Bee Journal for a year, and thus get the book as a premium. Let everybody try for it. Will YOU have one?

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The leading Horticultural and Agricultural paper of the Pacific Coast. Publisht weekly, handsomely illustrated, $2.00 per annum. Sample copy free.

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GENERAL ITEMS

Fall Honey Coming Lively.

The fall honey crop is now coming at a lively rate. A hive on the scales showed a gain of 10½ pounds one day last week, and 29 pounds for 5 consecutive days. If it holds warm we seem likely to get a record-breaker from goldenrod. H. D. BURRELL.

Van Buren Co., Mich., Sept. 10.

Another Poor Honey Season.

Our bees have done poorly. We have taken only about 200 pounds from 29 colonies, spring count, and will get but little more at the end of the season. They made a good start in the early spring and built up finely, and have gathered just enough honey to keep in good condition to take advantage of a harvest should it come. And why it has not come cannot be stated by this deponent. We have had no severe drouth nor excess of rain; all kinds of vegetation have grown luxuriantly.

L. JONES.

Floyd Co., Iowa, Sept. 4.

Bees Scraping—Best Season.

I see on page 569 a question and answer in regard to bees scraping the alighting-board of the hive, near the entrance. I have noticed this same thing many times, and think that when they do this they are perfectly contented with their home; that is, they have no notion of swarming. Did any one ever know of a colony casting a swarm while this was in progress? If so, I would like to hear of it.

This has been the best season for honey with us since I have been in the

DR. PEIRO,
34 Central Music Hall, CHICAGO.

Golden Italian Queens.

By return mail, 75 cents each; $7.50 per dozen. They pleased every customer this year; well, why not? They are the prettiest, gentlest and best hustlers you ever saw.

—Muth's—

Square Glass Honey-Jars.

Just the package for home trade. Full line of ROOT'S GOODS at their prices.

HONEY.

Have you any FANCY WHITE comb or extracted honey for sale? Also beeswax wanted.

C. H. W. WEBER,
2146 Central Ave., Cincinnati, Ohio.

FOR HOMESEEKERS.

The Chicago, Milwaukee & St. Paul R'y will sell regular Homeseekers' Excursion tickets to all points in South Dakota, at one fare plus $2.00 for the round trip, on Sept. 18 and Oct. 2, 1900. This will enable parties to visit the Corn Belt Exposition to be held in Mitchell, S. D., Sept. 26 to Oct. 4, 1900, inclusive. This exposition is held to demonstrate the great agricultural resources, wealth and possibilities of this thriving State. The exposition is held in a gorgeously decorated corn-palace, which for beauty can hardly be excelled anywhere by a building of a temporary nature. There are thousands of acres of cheap lands left in South Dakota that will, under the present conditions in that State rapidly increase in price, and the holding of this corn-palace with its many attractions, that both amuse and instruct, should be an opportunity that all land and investment seekers should embrace.

For further information apply to any ticket agent of the Chicago, Milwaukee & St. Paul R'y, or address Geo. H. Heafford, General Passenger Agent, Chicago. 39A3t

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You pay for what you get in this world. You understand that. But as a business proposition we want you to try our great medicine for Indigestion, Constipation, Biliousness, Sick Headache, Insomnia, "the Blues," and like complaints—

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We know you won't buy it, until you know something about it. The best way to get you to know how good it is, is to let you try it. That's what we do. Send Stamp for "Health" booklet, and we will send you a free sample package, that you may try it yourself. We know you will always keep it in the house, if you once try it. What fairer offer could we make? At all Druggists—10 and 25 cents.

Handsome Stick Pin FREE!

If, instead of sending for a sample, you send us 25c we will send you "Health" booklet, a 25c box and a handsome gold stick-pin, set with emerald, ruby or pearl, warranted to be worth double the money. Order by number. This is an extra introductory offer. Only one pin to one person. If unsatisfactory, money returned. Send now while the offer is good.

MODERN REMEDY COMPANY, KEWANEE, ILLINOIS.

[This company will do exactly as it promises.—Editors.]

bee-business. I had eight colonies, spring count, two of them almost worthless. I increast to 24 artificially, and they soon commenced to swarm, and it seemed as tho they were going to swarm themselves to death. They run my number of colonies up to 34, produced over 1,000 pounds of surplus honey, and all are in good condition. How is this for bee-keeping in North Carolina? I have imported Italians, golden Cyprians, and Holy Land bees, and find them all good races. Cyprians are the best of all for comb-building and honey-gathering, but a little too hard to control when excited.

H. E. Coffey.

Rutherford Co., N. C., Sept. 11.

A Very Dry Season.

We are having a very dry season, no white honey at all. Nuclei have swarmed out by the dozens. A neighbor has had several colonies starve, or nearly so. There is very little brood or honey in the hives. It is the driest season I ever saw. If we have rains we may get buckwheat honey. Hay was 1/3 of a crop. W. L. Coggshall.

Tompkins Co., N. Y., July 25.

No Surplus Honey.

We have had no surplus honey this year, and bees have barely lived thru the season. We expect them to get some winter stores from goldenrod this week. I have been breeding for non-swarming bees for years. If some call the Dadant hive a barn I would be pleased to know what you would call some of mine—perhaps a ranch. They are 30 inches long and 18 inches wide, with air space. They have 22 frames 10½x12 inches. P. W. Corya, M.D.

Jefferson Co., Ind., Aug. 30.

Swarming.

On page 310 I read about Mr. Smith's second swarm in 21 days. Three years ago I bought a colony of bees of a man who found them in a tree which he cut down, giving him 20 cents for it. I clipt the queen's wing and put them into a frame hive, where they staid until May 22d, when they swarmed. I caught the same queen and put her in a 10-frame Langstroth hive. The swarm was the largest I ever saw. May 26th they swarmed again, leaving a very good colony in the hive, also a queen-cell with an egg in it. The queen was an Italian. How is that?

M. H. Sossoman.

Franklin Co., Ark., Sept. 4.

Wetting Sections Before Folding.

There are a good many of us who cannot afford to wet a whole bunch of sections when we only want a few. When all are wet those not used mildew or mold, which makes them look dark. Here is a way to wet sections before folding them:

Take what you can grasp in one hand, having the grooves all one way. Bunt the ends against something to make them even, then hold in both hands and press down edgewise to even them the other way; while in this shape incline them over sidewise about 15 degrees, which will make all the

Sharples Cream Separators: Profitable Dairying

SPECIAL NOTICE!

Last winter's cut of basswood is the whitest it has been for many seasons. We are now making sections out of this new stock and therefore are in a position to furnish you with the very finest quality in the market.

LEWIS WHITE-POLISHT SECTIONS

Are perfect in workmanship and color.

Orders shipt immediately upon receipt. A complete line of everything needed in the apiary. Five different styles of Bee-Hives.

Lewis Foundation Fastener simplest and best machine for the purpose. Price, ONE DOLLAR, without Lamp.

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We Are Importers and Breeders of Belgian Hares. Our stud is led by Wantage Fox, (score 96); Champion Duke of Cheshire, (winner 13 First and Gold medal); Buttercup (score 96). We have an unusually good lot of youngsters. For prices, etc., address our Chicago office.

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Breeding Farm, Alameda, California. 340 Dearborn St., Chicago, Ills.

Please mention Bee Journal when writing.

Dr. Miller's Honey-Queens!

One Untested Queen Free as a Premium for sending ONE New Subscriber to the American Bee Journal for one year.

Or, send us $1.50 and we will mail you a Queen and also credit your own subscription for One Year.

Or, for $1.00 queen alone by return mail.

We have been fortunate in making an arrangement with DR. C. C. MILLER—the well-known honey-specialist—to rear queens EXCLUSIVELY FOR US DURING THE SEASON OF 1900. These Queens will be mailed in rotation, so "first come first served."

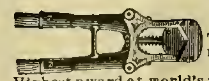
The Queens Dr. Miller will send out on our orders will be precisely the same as those he rears for his own use, so of course they will be from his best stock. His best colony in 1899 had a queen reared in 1898; May 5, 1899, it had brood in 4 frames, and he gave it at that time a frame of brood without bees. It had no other help, but May 25 a frame of brood with adhering bees was taken from it, and the same thing was repeated June 3, leaving it at that time 5 frames of brood. It stored 178 sections of honey, weighing 159 pounds (and that after July 20, in a poor season), being 2⅔ times the average yield of all his colonies. A point of importance is the fact this colony did not swarm, and an inspection every week or 10 days showed that at no time during the entire season was there even so much as an egg in a queen-cell. Dr. Miller rears queens from this one.

The demand nowadays is for BEES THAT GET THE HONEY when there is any to get, and Dr. Miller has such bees. You will want to have a queen from his best, we are sure, even if she is not pure Italian.

Do not send any orders to Dr. Miller, as all orders MUST come thru us, according to our agreement.

Remember, send us $1.00 for ONE NEW SUBSCRIBER to the American Bee Journal for one year, and YOU will get ONE OF DR. MILLER'S UNTESTED HONEY-QUEENS FREE AS A PREMIUM. This offer is made *only* to our present regular subscribers. Orders for queens are to be filled in rotation.

Address all orders to GEORGE W. YORK & CO.,
118 Michigan Street, CHICAGO, ILL.



IT PAYS TO DEHORN. Hornless cows give more milk. Hornless steers make better beef. The best dehorner, the most humane and easiest to use is the Keystone Dehorning Knife. Cuts on four sides at once, without crushing or bruising. Endorsed by leading colleges. Highest award at world's fair. Send for circulars. M. T. PHILLIPS, Pomeroy, Pa., (Successor to A. C. BROSIUS).

openings show.. Now grasp them in the left hand, and pour cold water from a common teakettle in the grooves. Hold them tight together to keep the water from going between them, and lay them down in a pile with grooves up. To fold them, turn the bunch over, and all is well. C. CRANK.

Oscoda Co., Mich.

Crop Failure—A Yellow Weed.

The honey crop in this immediate vicinity has been a failure this year. I got only about 150 pounds (in the spring) from 20 colonies. Usually the bees are working busily at this time on the yellow weed I mentioned once before, but altho the ground in every direction is covered with its yellow bloom, the bees are doing no good. Fig. 133, page 387, of Dadant's Langstroth, is an exact cut of this yellow weed, which is there called "Helenium tenuifolium," the honey of which Dr. J. P. H. Brown is quoted as classing poisonous; but if it is, it must either be very slightly so, or vary with locality. During the past winter we ate over 100 pounds of it without the slightest ill effect, but the flavor is rather disagreeable, in addition to its bitterness, which also seems to vary in amount. ALBERT E. ISAAC.

Morgan Co., Ala., Sept. 5.

Fairly Good Honey Crop.

The honey crop has been fairly good here, strong colonies getting 50 pounds each of extracted honey. I expect to get that much more when the fall flowers bloom.

My premium Dr. Miller queen received some weeks ago, is doing nicely. Her workers are two and three banded. I liberated her immediately upon arrival, in a queenless colony, with no trouble. They are getting strong now for the fall. S. CHEATHAM.

Edgefield Co., S. C., Aug. 30.

Paper Bag Feeders—Printers' Ink.

There was very little honey produced in this part of the country this season. My bees didn't average 10 pounds of surplus honey to the colony, but they are filling up nicely with fall honey for winter, and they are rearing a nice lot of young brood for next spring. I had the queens caged in about 100 hives during the buckwheat flow. I don't like August bees for wintering, so I thought I would try September and October bees, and new hives and combs, for a change; so I caged the queens for 9 or 10 days. To try such an experiment on so many hives was rather a risky thing—I should have tried it on four or five hives first, but I suppose I will know more about it when the cherry-trees are in bloom next spring.

I had no idea that printers' ink was so poisonous to bees, but a case that came under my observation lately proved it to be true beyond a doubt. I have been in the lazy habit of using for feeders small paper bags—the kind that storekeepers use for tying up groceries. Whenever I found a colony that needed feeding, I poured four or five pounds of honey or thick syrup into a paper sack, and placed it on top of the frames, with an empty super and tight cover on top of the hive. When removing the empty bags I almost always found more or less dead bees around on top of the frames. I thought at first that the bees got to fighting among themselves about the pin-holes that I made in the bags for the syrup to run thru. There was surely no chance for robbers, as I always feed in the evening. I have come to the conclusion that it was "J. D. Reeser & Co., Dry Goods, Groceries, Millinery, Etc.." that was printed on the paper bags that was the cause of the trouble. I don't know what I'll do, but I think I will have to get some feeders made to order, without any printing on them. WM. KERNAN.

Sullivan Co., Pa., Sept. 5.

Bees Did Fairly Well.

My bees have done fairly well so far this season, but we had too much rain until recently. We look for a heavy fall crop of honey. I have 90 colonies in two-story Simplicity hives, but I ran out or hives toward the last and put one hive in a drum coal-stove, and they are as happy as if they were in a $5 hive. D. F. MARRS.

McLennan Co., Tex., Aug. 25.

Did Fairly Well on White Clover.

Bees did tolerably well on white clover for a time here, then it turned off dry, and the flow ceast. Now they are doing fairly well on Spanish-needle, smartweed, goldenrod, etc. I have sold some honey at 12½ cents per section, and more at 13 cents a pound. Bees will secure enough and to spare to winter on. I have 41 colonies, and want to increase as fast as practicable to 100. DANIEL JONES.

Marshall Co., Ill., Sept. 7.

Honey Crop a Total Failure.

The honey crop is a total failure here this season. I will have to feed to get the bees thru the winter.

J. C. BERGEN.

Humboldt Co., Iowa, Sept. 6.

Blooming of Alfalfa.

In a recent issue of the American Bee Journal a mistake is made in teaching that alfalfa does not bloom the first season. If it is planted by the 4th of July it will get ripe before frost, and frost comes early at this altitude. JAMES H. WING.

Prowers Co., Colo., Sept. 1.

A Beginner's Experience.

I am a beginner with bees, having bought three colonies in the spring, which have increast to nine. I have been greatly helpt by taking the American Bee Journal, and expect to take it as long as I keep bees.

I bought a black colony of bees last spring which was six years old, and had never cast a swarm. It was ordinarily strong and had lots of honey. I wanted to work for increase, so I divided the colony, taking three frames of brood and bees and placing them in another hive, gave it one of Dr. Miller's queens, and it is doing fine. The old colony soon filled up the brood-chamber and started to fill the super, but all at once it failed to work. I left them for a few days and they became

H. G. Quirin, the Queen-Breeder,
Is as usual again on hand with his
improved strain of
GOLDEN
ITALIAN QUEENS.

The A. I. Root Co. tell us that our queens are EXTRA FINE. We obtained thru special correspondence a breeder from Doolittle, who says, "If there is a queen in the U.S. worth $1 00, this queen is." Queens bred from her, soon as they begin to lay, $1.00 each.

Queens promptly by RETURN MAIL. We guarantee safe delivery.

Price of Queens after July 1.	1	6	12
Warranted	$ .50	$ 2.75	$ 5.00
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Tested	1.00	5.00	9.00
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Extra selected tested	3.00		
Bees from these Queens all yellow to tip.			

Address all orders to
H. G. QUIRIN, Parkertown, Erie County, Ohio.
34A6t Please mention the Bee Journal.

PATENT WIRED COMB FOUNDATION
Has no Sag in Brood-Frames.
Thin Flat-Bottom Foundation
Has no Fishbone in the Surplus Honey.
Being the cleanest is usually workt the quickest of any foundation made.
J. A. VAN DEUSEN,
Sole Manufacturer,
Sprout Brook, Montgomery Co., N.Y.

DITTMER'S FOUNDATION
Wholesale and Retail

This foundation is made by an absolutely non-dipping process, thereby producing a perfectly clear and pliable foundation that retains the odor and color of beeswax, and is free from dirt.

Working wax into foundation for cash, a specialty. Write for samples and prices.

A full line of Supplies at the very lowest prices, and in any quantity. Best quality and prompt shipment. Send for large, illustrated catalog.

GUS. DITTMER, Augusta, Wis.
Beeswax Wanted.
Please mention Bee Journal when writing.

ALL THE ADVANTAGES of a low down wagon, such as ease of loading, saving of heavy lifting, saving the land from cutting up and rutting, are derived from using a set of
Electric Steel Wheels
They convert your old wagon into a low down handy wagon at the lowest possible cost. They are made of steel with either direct or staggered oval steel spokes. They are made in sizes to fit any wagon. A set of these wheels means that you have practically two wagons:—A low one for the farm and a high one for the roads. Any height you want, and all wide, non-rutting, easy draft tires. Write at once for catalogue, prices, etc.
Electric Wheel Co., Box 16, Quincy, Ill.
Please mention Bee Journal when writing.

The Emerson Binder

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

GEORGE W YORK & CO.
118 Michigan Street, CHICAGO, ILL.

BEES QUEENS
Smokers, Sections,
Comb Foundation
And all Apiarian Supplies
cheap. Send for
FREE Catalogue. E. T. FLANAGAN, Belleville, Ill.
Please mention Bee Journal when writing.

very cross. I finally divided them again, and the new colony went to work splendidly the same day. The old one did not do any better, so I left it five days longer, then killed the old queen, and they went to work at once. When I killed the old queen I cut out all the queen-cells and left the colony queenless for five days. Before introducing the new queen I lookt thru the hive carefully, and found a strip of new comb built on one of the brood-frames about two inches long with three queen-cells on it. Each cell was capt over and had a queen in it. I wish some one would tell me how those queen-eggs got there. I have had six queens and lost only one, and it was my fault they did not accept her.

A swarm issued July 10 which I gave foundation starters and a queen, and it has filled its hive and 24 sections; and on Aug. 5 it cast another swarm, the largest I ever saw,

JAMES H. KNOTTS.
Preston Co., W. Va., Sept. 4.

Bees Surprised Him.

I arrived home from the Chicago convention at noon, Sept. 3, none the worse from my ten days' visit in the Windy City. Matters at home seemed to have gone on about as well as if I had not been absent. Strange, isn't it? The bees, too, thought to surprise me would be about the right thing to do, by getting a "move on," which they seem to have done, and have kept it up ever since. I have abandoned the thought of having to feed for wintering the bees, and am nursing the prospect for at least a little surplus to help make buckwheat cakes a little more relishsome for my own family. In my communication under "General Items," page 572, the type make me say "ounces" instead of "pounds." The scales colony is now 12¾ pounds heavier than it was Aug. 24—not a big gain, but better than a loss. What is true of this colony is apparently true of my 40 others. F. W. HALL.
Sioux Co., Iowa, Sept. 10.

The Adel Queen
you sent me in 1899 is the best queen I ever saw. Her colony stored 42 pounds whitest honey in 19 days, commencing Aug. 11th, now working on third super. Send two more queens.
GEO. H. WEAVER, Rome, N. Y.
One queen, $1.00. Send for September prices.
37Atf HENRY ALLEY, Wenham, Mass.
Please mention Bee Journal when writing.

Utah.—There will be a meeting of the Utah Bee-Keepers' Association in the City and County Building, Salt Lake City, Oct 6, 1900, at 10 o'clock a.m., to which all are cordially invited. A full program in the interest of the industry will be presented. Correspondence is solicited. Send in questions and send us the addresses of other bee-keepers. Among the subjects it is desired to consider are the purchase of supplies and the disposing of bee-products.
E. S. LOVESY, Pres. J. B. FAGG, Sec'y.

Illinois.—The annual meeting of the Northern Illinois Bee-Keepers' Association, will be held in the Court House in Freeport, Ill., on Tuesday and Wednesday, Oct. 16 and 17, 1900. All are cordially invited to attend.
B. KENNEDY, Sec.
R. F. D. No. 5, Rockford, Ill.

Keystone Dehorning Knife.—The advertisement of the famous Keystone Dehorning Knife appears again in our columns with this issue. Our readers will remember this as having been made and sold by the late A. C. Brosius, who was also the inventor and patentee. After Mr. Brosius' death the business was carried on by Mr. H. T. Phillips, and later purchast by him outright, and removed to Pomeroy, Pa., where increast facilities will permit reaching after new trade. The "Keystone Knife" has hosts of friends among those who advocate dehorning, and, under the care of Mr. Phillips, will undoubtedly add to the name and fame it already enjoys. Address, M. T. Phillips, Pomeroy, Pa., and mention this paper.

Wanted To Buy Honey
What have you to offer and at what price?
33Atf ED WILKINSON, Wilton, Wis.
Please mention Bee Journal when writing

FREE FOR A MONTH....
If you are interested in Sheep in any way you cannot afford to be without the best Sheep Paper publisht in the United States.
Wool Markets and Sheep
has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.
WOOL MARKETS AND SHEEP, CHICAGO, ILL.
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BEE-SUPPLIES!
Root's Goods at Root's Prices
POUDER'S HONEY-JARS and everything used by bee-keepers. Prompt Service—low freight rate. Catalog free. WALTER S. POUDER,
512 Mass. Ave., INDIANAPOLIS, IND.

Belgian Hare Guide AND DIRECTORY OF BREEDERS. Price 25c.
Inland Poultry Journal Co., Indianapolis, Ind.
Please mention Bee Journal when writing.

GINSENG—Book all about it 4c. Tells how to grow this great money maker. Write to-day. AMERICAN GINSENG GARDENS, Rose Hill, N. Y.
38E8t Mention the American Bee Journal.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Sept. 12.—The market is in good shape and choice lots of white comb honey bring 15c; good but not strictly No. 1 sells at 13@14c; amber, best grades, 12@12½c; dark, 9@10c. Extracted, best grade of white, 7½@8c; ambers, 6¾@7c; dark, 6@6½c. Beeswax, 28 cents, all in good demand.
R. A. BURNETT & CO.

CINCINNATI, Aug. 8.—The demand for extracted honey is slow, while the shipments are many. I quote as follows: White clover, 8@8½c; Southern and amber, 6½@7c. Comb honey sells as fast as it arrives at the following prices: Fancy, 16@16¼c; No. 1, 15c. Beeswax, good demand, 25c. C. H. W. WEBER.

BOSTON, Sept. 8.—Our market has shown a radical improvement during the last 10 days. Fancy white honey in cartons will bring 16@17c; A No. 1, 15@16c; No. 1, 15c; No. 2, 13c. Honey not in cartons, simply cases, one cent less. Extracted honey from 7½@8½ cents, as to quality. BLAKE, SCOTT & LEE.

KANSAS CITY, Sept. 13.—Fancy white comb honey, 14@15c; No. 1 white, 13½@14c; No. 1 amber, 12c; dark, 11@11½c. Market firm, demand good, receipts light. Beeswax, 25@30c.
W. R. CROMWELL PRODUCE CO.,
Successors to C. C. Clemons & Co.

BUFFALO, Sept. 13.—Fancy new 1-pound white comb honey, 15@16c; few extras possibly 16½@17c; fair to good, 12@14c; dark and common, 8@10c; some old, 8@12c. Demand very good with an excellent prospect.
BATTERSON & CO.

DETROIT, Sept. 7.—Fancy white comb, 15@16c; No 1, 13@14c; amber and dark, 10@12c. Extracted, white, 7@8c; dark, 5@6c. Beeswax, 25@26c. M. H. HUNT & SON.

NEW YORK, Sept. 8.—Comb honey in good demand, all grades. Supply light, and arrivals sell readily at 15@16c for fancy white; 13@14c No. 1 white; 12c for amber and 10@11c for buckwheat. Extracted in fair demand at 7@7½c for white, 6½@7c for light amber; 6c amber, and 5½c dark. Beeswax firm at 28c.
HILDRETH & SEGELKEN.

SAN FRANCISCO, Aug. 22.—White comb, 12@13c; amber, 9@11; dark, 6½@7½c. Extracted, white, 7½@8c; light amber, 6¾@7¼c; amber, 5½@6c. Beeswax, 26@28c.

The first noteworthy shipment abroad this season was made the current week, the British ship Afghanistan, clearing on the 25th inst. for Liverpool, taking 404 cases extracted. Market for all descriptions is firm at the quotations, with stocks light.

WANTED—HONEY AND BEESWAX.
We have a tremendous and growing trade in this line, and would like to hear from all who have such goods to sell in any part of the country, with quality, description, and lowest cash price. THOS. C. STANLEY & SON, Fairfield, Ill.

WANTED COMB HONEY AND EXTRACTED HONEY. Will buy your honey, no matter what quantity. Mail sample with your price expected delivered in Cincinnati. I pay cash on delivery. C. H. W. WEBER, 2146 Central Ave., CINCINNATI, OHIO.

STUDY EMPLOYMENT at home or traveling $3.00 to $5.00 per day guaranteed. Send for particulars at once.
THE INTERSTATE ART CO., Alverton, Pa.
38A4t Please mention the Bee Journal.

Best on Earth
What? Our New Champion Winter-Cases. And to introduce them thruout the United States and Canada we will sell them at a liberal discount until Oct. 15, 1900. Send for quotations. We are also headquarters for the NO-DRIP SHIPPING-CASES.
R. H. SCHMIDT & CO.
Sheboygan, Wisconsin.
Please mention Bee Journal when writing.

BEES FOR SALE
Full colonies of good stock shipt in 8-frame hive, complete, $4.00; in 10-frame hive, $4.50.
B. A. ALDRICH, Smithland, Woodbury Co. Iowa.
Atf Please mention the Bee Journal.

"The Prohibition Hand-Book and Voter's Manual," Size, 5x7 Inches; 50 Pages.
It contains Platform, Sketches, Pictures and Letters of Acceptance of Candidates and much valuable Statistical matter. Full of Facts. An Argument Settler. Pass them around. Price, 10c per copy, postpaid; $1.00 per dozen, postpaid. Send your order at once to
ALONZO E. WILSON, Room 823—153 La Salle St., Chicago, Ill.

25 cents Cash paid for Beeswax.
This is a good time to send in your Beeswax. We are paying 25 cents a pound—CASH—for best yellow, upon its receipt, or 28 cents in trade. Impure wax not taken at any price.
Address as follows, very plainly,
GEORGE W. YORK & CO., 118 Michigan St., CHICAGO.

We have a Large Stock on hand and can ship promptly.

SEND US YOUR ORDERS FOR

Hives, Extractors

OR ANYTHING YOU WANT IN THE BEE-KEEPING LINE.

WE MAKE ONLY THE BEST.

Our Falcon Sections and New Process Foundation are ahead of everything, and cost no more than other makes. New Catalog and copy of THE AMERICAN BEE-KEEPER free. Address,

THE W. T. FALCONER MFG. CO.,
JAMESTOWN, N. Y.

☞ W. M. GERRISH, East Notingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.

Please mention Bee Journal when writing.

SWEET CLOVER

And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white)	60c	$1.00	$2.25	$4.00
Crimson Clover	70c	1.20	2.75	5.00
Alsike Clover	80c	1.50	3.50	6.50
White Clover	90c	1.70	3.75	6.50
Alfalfa Clover	80c	1.40	3.25	6.00

Prices subject to market changes.

Add 25 cents to your order, for cartage, if wanted by freight.

GEORGE W. YORK & CO.
118 Michigan Street, - CHICAGO, ILL.

☞ IF YOU WANT THE

BEE-BOOK

That covers the whole Apicultural Field more completely than any other publisht, send $1.25 to Prof. A. J. Cook, Claremont, Calif., for his

Bee-Keepers' Guide.

Liberal Discounts to the Trade.

CHEAP FARM LANDS

Located on the Illinois Central R.R. in

SOUTHERN ILLINOIS

And also located on the Yazoo & Mississippi Valley R.R. in the famous

YAZOO VALLEY

of Mississippi—specially adapted to the raising of

CORN AND HOGS.

Soil Richest IN THE World.

Write for Pamphlets and Maps.

E. P. SKENE, Land Commissioner,
Ill. Cent. R.R. Co., Park Row, Room 413,
24A24t CHICAGO, ILL.

Please mention Bee Journal when writing.

FALL SPECIALTIES

Shipping-Cases, Root's No-Drip; Five-Gallon Cans for extracted honey, Danz. Cartons for comb honey. Cash or trade for beeswax. Send for catalog. M. H. Hunt & Son, Bell Branch, Mich.

Please mention Bee Journal when writing.

23rd Year **Dadant's Foundation.** 23rd Year

We guarantee satisfaction. ❊❊

What more can anybody do? BEAUTY, PURITY, FIRMNESS, No SAGGING, No LOSS.
PATENT WEED-PROCESS SHEETING.

Why does it sell so well? ❊❊

Because it has always given better satisfaction than any other.
Because in 23 years there have not been any complaints, but thousands of compliments.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

BEE-KEEPERS' SUPPLIES OF ALL KINDS.

Langstroth on the Honey-Bee, Revised

The Classic in Bee-Culture—Price, $1.25, by Mail.

Beeswax Wanted ❊ ❊ ❊

AT ALL TIMES.

CHAS. DADANT & SON,
Hamilton, Hancock Co., Ill.

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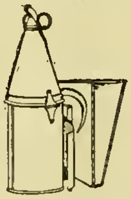
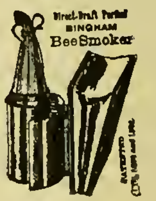
MADE TO ORDER.

Bingham Brass Smokers,





made of sheet-brass which does not rust or burn out should last a life-time. You need one, but they cost 25 cents more than tin of the same size. The little pen cut shows our brass hinge put on the three larger sizes.

No wonder Bingham's 4-inch Smoke Engine goes without puffing and does not

DROP INKY DROPS.

The perforated steel fire-grate has 381 holes to air the fuel and support the fire.

Prices: Heavy Tin Smoke Engine, four-inch Stove, per mail, $1.50; 3½-inch, $1.10; three-inch, $1.00; 2½-inch, 90 cents; two-inch, 65 cents.

BINGHAM SMOKERS

are the original, and have all the improvements, and have been the STANDARD OF EXCELLENCE for 22 years. Address, T. F. BINGHAM, FARWELL, MICH.

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QUEENS

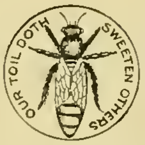
Untested Queens, Italian, 60 cents. Tested, $1. From honey-gathering stock. We keep in stock a full line of popular Apiarian Supplies. Catalog free.

Apiaries—Glen Cove, L.I. **I. J. STRINGHAM, 105 Park Place, New York, N. Y.**

Please mention Bee Journal when writing.

Four Celluloid Queen-Buttons Free

AS A PREMIUM


OUR TOIL DOTH SWEETEN OTHERS

OUR TOIL DOTH SWEETEN OTHERS

For sending us ONE NEW SUBSCRIBER to the Bee Journal for the balance of this year, with 30 cents, we will mail you FOUR of these pretty buttons for wearing on the coat-lapel. (You can wear one and give the others to the children.) The queen has a golden tinge.

This offer is made only to our present regular subscribers.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate, it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

Prices of Buttons alone, postpaid: One button, 8 cts.; 2 buttons, 6 cts. each; 5 or more, 5 cts. each. (Stamps taken.) Address,

GEORGE W. YORK & CO., 118 Michigan St., CHICAGO.

AMERICAN BEE JOURNAL

MASSACHUSETTS AGRICULTURAL COLLEGE

GEORGE W. YORK,
Editor.

CHICAGO, ILL., SEPTEMBER 27, 1900.

FORTIETH YEAR.
No. 39.

WEEKLY

THOMAS G. NEWMAN,
Director of the National Bee-Keepers' Association.

F.B.WHITE Co. Ch.

THE AMERICAN BEE JOURNAL

PUBLISHT WEEKLY BY
GEORGE W. YORK & CO.
118 Michigan St., Chicago, Ill.

[Entered at the Post-Office at Chicago as Second-Class Mail-Matter.]

IMPORTANT NOTICES:

The Subscription Price of this journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50c a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "Dec00" on your label shows that it is paid to the end of December, 1900.

Subscription Receipts—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows you that the money has been received and duly credited.

Advertising Rates will be given upon application.

Reformed Spelling.—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

The Weekly Budget

Mr. and Mrs. R. C. Aikin, with their little daughter Eva, called at our office Sept. 18, when on their way back to Colorado. They had a pleasant stay among relatives in Kentucky and southern Indiana after the Chicago convention. The Aikin family are some of the real salt of the earth.

* * * *

Among the Callers at our office last week were, John Wagner, of Stephenson Co., Ill., having 80 colonies of bees; L. J. Bergh, of Dane Co., Wis., with 20 colonies; Robt. Halley and Chas. Clarke, of Cook Co., Ill., with 19 and 35 colonies, respectively. We are always glad to see our readers, and shake their honest and loyal hands, even if we do sometimes fail to mention their calling thus publicly.

* * * *

Mr. L. Kreutzinger's Honey Harvest, for 1900, mentioned last week, was held Saturday, Sept. 15, and was quite a success. Some 200 people from all parts of the city came to look into the inner life of the honey-bee, and their desire for a glance into its mysteries was manifested in every way.

Among the visitors present were Mr. Toshiro Fujita, consul of the Japanese Empire, with his chancellor, Mr. T. Funatsu; Mr. Baron A. A. von Schlippenbach, Imperial Russian consul; Dr. Walther Weber, consul of the Imperial German Government; and about 12 teachers from the public schools. Mr. Herman F. Moore, secretary of the Chicago Bee-Keepers' Association, rendered valuable assistance in explaining the wonders of apiculture to the interested onlookers. About 100 cases of honey were carried home by the visitors. Mr. Reinhold Jahn is Mr. Kreutzinger's managing apiarist, and has been a very busy man the past season with four apiaries to look after.

* * * *

Bees at the Pan-American.—The Pan-American will open at Buffalo, N. Y., May 1, 1901, and continue until Nov. 1. The following has been sent us by the superintendent of the press department of the bureau of publicity, Mr. Mark Bennitt:

"The important industry of bee-keeping will have adequate representation. Very useful knowledge has been developt in recent years in regard to this branch of farm work, and by reason of this better knowledge larger profits are being realized by those who make use of it. The exhibits in this class will show the localities and conditions in which and under which honey-bees thrive best. The uses of bees for other purposes than honey—such as the fertilization of flowers by reason of carrying the pollen from one flower to another—will be shown. There will be displays of a variety of hives, the commercial forms of honey, the different varieties of bees, and the methods of management in apiaries."

* * * *

A Sweet-Tootht Policeman was thus mentioned lately in the Chicago Times-Herald:

"Officer Smith, of Rogers Park, was sent out yesterday morning to investigate the damage done by Tuesday's storm. The police officials waited a long time for his report, and they bookt him as a mysterious disappearance, and two other officers were detailed to find him. They wandered thru the streets and across the farms for hours and finally came across the missing man behind a clump of bushes. He was seated near a fallen tree ladling something from the stump and putting it into his mouth.

"Smith had found a honey-bee's store-house in the middle of an old tree that had been blown down by the wind. The charms of the honey proved so great that he forgot all about his report."

Please mention Bee Journal when writing advertisers.

BEST
Extracted Honey For Sale
ALL IN 60-POUND TIN CANS.

ALFALFA HONEY.......

This is the famous White Extracted Honey gathered in the great Alfalfa regions of the Central West. It is a splendid honey, and nearly everybody who cares to eat honey at all can't get enough of the Alfalfa extracted.

BASSWOOD HONEY.......

This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms in Wisconsin. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

Prices of Either Alfalfa or Basswood Honey:

A sample of either, by mail, 8 cents; samples of both, 15 cents—to pay for package and postage. By freight—one 60-pound can, 9½ cents per pound; two cans, 9 cents per pound; four or more cans, 8½ cents per pound. Cash must accompany each order. If ordering two or more cans you can have half of each kind of honey, if you so desire. This is all

ABSOLUTELY PURE BEES' HONEY,
The finest of their kinds produced in this country.

Read Dr. Miller's Testimony on Alfalfa Honey:

I've just sampled the honey you sent, and it's prime. Thank you. I feel that I'm something of a heretic, to sell several thousand pounds of honey of my own production and then buy honey of you for my own use. But however loyal one ought to be to the honey of his own region, there's no denying the fact that for use in any kind of hot drink, where one prefers the more wholesome honey to sugar, the very excellent quality of alfalfa honey I have received from you is better suited than the honeys of more markt flavor, according to my taste. C. C. Miller.
McHenry Co., Ill.

Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

Address,
GEORGE W. YORK & CO., 118 Michigan St., Chicago, Ill.

Establisht in 1861
AMERICAN
BEE JOURNAL
The Oldest Bee-Paper in America

40th YEAR. CHICAGO, ILL., SEPTEMBER 27, 1900. No. 39.

✻ Editorial Comments. ✻

Uniting Weak Colonies should not be delayed too long. While they may be united almost any time, it is better that the uniting be done so the united colony can be settled down comfortably in its winter quarters long before freezing weather, with plenty of time to have its winter stores arranged to its entire satisfaction.

One of the troubles in uniting colonies is that the bees of the colony removed to the new location are likely to return to the old location on their first flight. To avoid this, some practice putting a broad board in front of the new entrance, so that when a bee bumps its nose against the board in coming out it turns about to see what is the trouble, and is thus induced to mark its new location and return to it. It is also well to remove the stand from the old location, and to make it look as unlike home as possible.

Queenless bees take up with a new location better than those having a queen. So it is a good plan to remove the queen from the colony to be removed, so that it may be queenless two or three days before uniting.

Bees are somewhat like people, more inclined to be good-natured after a full meal. So to encourage their uniting peaceably, induce them to fill up on honey by pounding on the hive of one colony a minute or more, then on the other hive the same way, and then allowing two or three minutes more for the bees to fill their honey-sacs. The pounding should be heavy, so as to jar the hive rather than to make a noise. The fist makes a good hammer for the purpose. Then take the colony made queenless to the place of the other colony, and put into the hive standing there the best filled combs from each hive, alternating the frames so the bees will be all mixt up, not knowing where to begin fighting.

It takes a good deal of resolution for a beginner who is anxious to increase the size of his apiary to decide to unite two weak colonies and go into winter quarters with only four colonies, when by keeping them separate he could make his winter debut with five. But as he increases in experience he learns that it is of less importance to go into winter quarters with a given number than it is to come out of winter with that number. Having three fairly strong colonies and two weak ones, if he unites the two weaklings he stands a good chance of coming out in the spring with four good colonies, whereas if he tries to winter the whole five the chances are that the weaklings will succumb, leaving him with only three. In other words, the fall uniting is likely to increase his spring number by one.

Even if the two weak colonies are sure to winter over, it is policy to unite them. A very weak colony makes very slow work increasing in strength in spring. A colony having brood in four combs well covered with bees will increase right along, while one with bees on one or two combs will stand still or decrease in numbers till quite warm weather. So if the two weaklings are united in the fall, the united colony will build up in spring, and a new colony can be be formed from it early in the season, so that the owner will have two better colonies than if he had tried to keep the original weaklings separate.

The sooner you unite weak colonies after reading this the better.

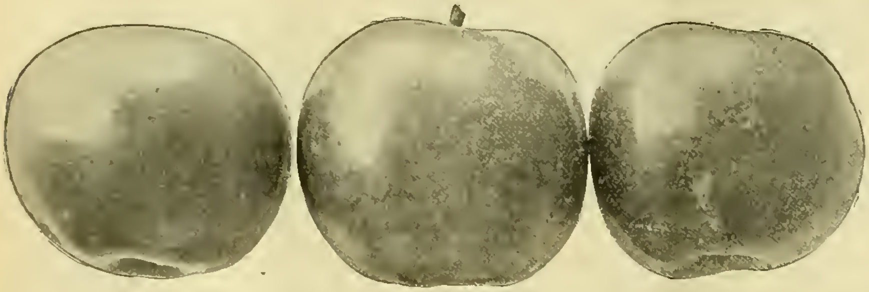
Bees and Peaches.—We have received the following from General Manager Secor, of the National Bee-Keepers' Association, which will be of interest to our readers:

> Forest City, Iowa, Sept. 17, 1900.
>
> Wide notoriety has been given thru the daily and weekly press to a lawsuit between two brothers by the name of Utter, near Amity, N. Y., one a bee-keeper and the other a peach-grower.
>
> The fruit-grower alleged that the bees belonging to his brother, the bee-keeper, destroyed or lessened his crop of peaches.
>
> The case seems to have been one growing out of former family feuds and was therefore fought bitterly, but not thoroly.
>
> While the public has no interest in family or neighborhood quarrels, the bee-keeping fraternity does have an interest in truth and justice.
>
> The case was tried before a justice of the peace, and from reports of the evidence presented by the defendant the bees were fairly exonerated, but the court decided against the bee-keeper and rendered judgment for $25 and costs.
>
> Notice of this suit came to me, as General Manager, but too late to get in the proper evidence to rebut the allegations of the plaintiff. Therefore I have authorized an appeal to the county court, and have pledged $100 toward fighting it.
>
> The defendant is a poor man, which may have had something to do with the failure in the lower court, as he could not afford to employ the best legal counsel, or procure the attendance of expert witnesses from any distance.
>
> I am assisting the attorneys in obtaining evidence, and hope to get a reversal of the lower court.
>
> I merely want to let the bee-keepers know that the National Bee-Keepers' Association is not dead or asleep.
>
> The Association can not afford to let such a decision stand, and will fight it to the bitter end, if I have any authority in the matter.
>
> Eugene Secor, *General Manager.*

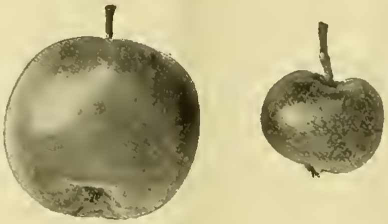
◆ ◆ ◆

Moving Bees a Short Distance.—Where only one or two colonies are to be moved, Editor Hill, of the American Bee-Keeper, gives the following plan, which certainly has a "good look" to it:

> "Set all frames containing unsealed brood, queen and nearly all the bees into another hive-body and place it upon the stand where it is desired to have it remain, leaving but a few frames of comb with honey and sealed brood upon the old stand. In the evening of the second day carefully transfer the old hive also to the new location, and, having its bottom-board removed, set it upon the hive first removed. If a board or other object is set against the front of the hive, causing the bees to note their new location upon first starting out in the morning, but few bees will be lost."



Stark.—From Wagener Pollen Above, from Stark Pollen Below. Markt Benefit from Cross-Pollination.



Pollination of Orchards is the title of an exceedingly interesting paper by S. W. Fletcher, of Cornell University, in the American Fruit and Vegetable Journal for July. It appears that some varieties of fruits, say of apples, are self-sterile; that is, they will produce little or no fruit unless planted near other varieties, so as to have the benefit of foreign pollen. Much of the unsatisfactory fruiting of orchards all over the country is due to self-sterility, which, however, is not a constant character with any variety. The same variety may be self-sterile in one place, and self-fertile in another. Some varieties seem to show no benefit from cross-pollination, but it will not do to depend on this, for in another place cross-pollination may be important. A difference in results may come from using different varieties as fertilizers, as for example, Seckel pears from Kieffer pollen are larger than from Lawrence pollen. As to the pollen-carriers, Mr. Fletcher says:

> "The pollen of one variety is carried to the pistils of another in two ways—by the wind and by insects. There are many kinds of insects which aid more or less in the cross-pollination of orchard fruits, principally bees, wasps and flies. Of these, the wild bees of several species are probably the most important. In a wild thicket of plums or other fruits, they are usually numerous enough to insure a good setting of fruit. But few, if any, wild bees can live in a large orchard, especially if it is well tilled. As the extent and thoroness of cultivation increases, the number of these natural insect aids to cross-pollination decreases; hence it may become necessary to keep domestic honey-bees for this purpose."

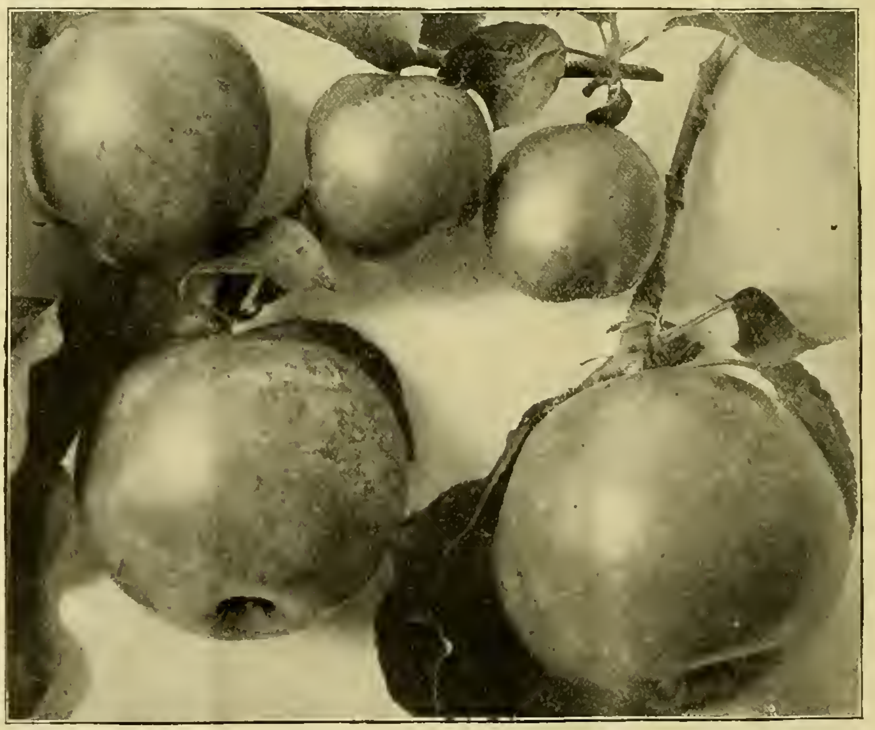
In other words, as cultivation progresses, it will be more and more important to have hive-bees on hand to secure better crops of fruit.

Six beautiful illustrations accompany the article, two of which are here reproduced. Regarding these, Mr. Fletcher says:

> "The difference between the cross and self-pollinated Starks and Longfields is so striking that one would almost be tempted to think the self-pollinated fruits were wormy, but they were not."

Measuring the diameters of the two lots of Stark apples, and remembering that their weights are in direct ratio as the cubes of their diameters, it is easy to figure out that with an equal number of specimens of each kind averaging the same as those in the illustration, the weight of the cross-pollinated fruit would be 5 and ⅜ times as much as that of the self-pollinated. At this rate, a man with an orchard of Stark apples could afford to pay a round price for the presence of bees to insure cross-pollination.

This testimony is all the more valuable, because coming from one of our most important experiment stations, and written, evidently, not by a bee-man, but by a fruit-man.



Longfield.—From Greening Pollen Below, from Longfield Pollen Above. Markt Benefit from Cross-Pollination.

Something About Robber-Bees.—G. M. Doolittle discourses about them in the American Bee-Keeper, and says one good thing is for beginners to know that robbers are very troublesome only in the spring before either honey or pollen is to be had from flowers. Another good thing to know is that in the spring the entrance of a hive should be closed (before the bees take their first flight) on the side of the hive where the honey is, and open only in front of the cluster. Mr. Doolittle continues:

> Another good thing, and to my mind the *best* of all, is to fix all weak colonies and all nuclei in any hives as follows (for only weak colonies and nuclei are subject to robbing at any time of the year): Just at night, on some cloudy, cool day (not so cool but that bees can fly), or under a tent, take the combs all out of the hive, then place a frame of honey next one side of the hive. Next to this put the frames of brood they have—one, two or three, and next the last frame a division-board, filler or dummy, as they are differently called by different persons when speaking of the same thing. To digress a little:
>
> Take a piece of inch or ⅞ board and make it so it will fit your hive below the rabbeting on which the frames hang loosely, and to the top of this nail the top-bar of a frame. Hang it in the hive the same as a frame and you have just as good a division-board, filler or dummy as can be made. To return: Having your two, three or four frames and your dummy in, say the west part of your hive, make the en-

trance at the bottom at the extreme east side; and for the two-frame colony give an entrance ⅜x⅜ of an inch; for the three-frame colony make the entrance ⅜ high by ⅝ long; for the four-frame colony make the entrance ⅜ high by one inch long, and you will never have any trouble from robbing at *any time* of the year, providing said colonies have a queen, some little brood, and bees enough to protect in any way or cover those combs. If a robber-bee should enter the entrance after so fixt, it must travel over all the vacant space to the dummy, ready to be met by a guard at any time, then go under the dummy where the guards are doing duty the same as at the entrance, and if it succeeds in passing there and reaching a comb, it is a comb having brood in it, not honey, the honey only being reacht after passing thru all of the hive and all of the bees, clear to the further side, and no robber-bee will make such a venture.

Convention Proceedings.

Report of the Proceedings of the 31st Annual Convention of the National Bee-Keepers' Association, held at Chicago, Ill., Aug. 28, 29 and 30, 1900.

BY DR. A. B. MASON, SEC.

(Continued from page 598.)

Dr. Mason—I suggest that we take a recess, and that those who wish to become members of this Association give me their dollars. They are enquiring for badges and we can not give them out until I get your dollar.

Mr. France—May I rise for information as to the status of the Wisconsin State Bee-Keepers' Association. Last winter its members joined the National Association in a body, as provided by the constitution of this Association. Is our dollar due for the next year now, or a year from the time we paid that dollar in?

Pres. Root—I will turn that question over to Dr. Mason to answer.

Dr. Mason—The dollar isn't due until the dollar you paid is used up, and every member of the Wisconsin Bee-Keepers' Association that is present is entitled to a badge, but you can't get it until I get your name and address so that I may know from Manager Secor, by-and-by, that you are members.

Mr. Abbott—I think, as chairman of the Board of Directors who have the expending of the money, it would be a good idea for me to make an old-fashioned explanation just now. I want to say to the bee-keepers that the Board of Directors are doing all they possibly can to advance the interests of bee-keeping in the United States with the funds that they have on hand; they are limited in their work a great deal because they lack funds, and the only means they have of getting funds is from the membership fees. And now let me give you an incident that occurred a short time ago, which will show you it is vastly important that you become a member of this Association: A lady who lives some 17 miles from St. Joseph, Mo., came into my office about fruit-blooming time, and appealed to me to know what could be done because 22 colonies of her bees had been poisoned by spraying the apple-orchards when in bloom. The first question I askt her was, "Are you a member of the National Bee-Keepers' Association?" and she immediately said, "No." "Well," I said, "So far as helping you financially is concerned, I can't do anything, but I will help you all I can individually;" but the individual help didn't amount to a great deal, and the lady is yet mourning the loss of 22 colonies of bees. If she had been a member of this Association, we would have immediately taken the matter up, and she would not only have been benefited, but the bee-keeping fraternity also. It was too late by joining the Association after the bees were dead. She said she had thought she probably would never get any good of the dollar, and she would not spend it—she would simply save the dollar. Sometimes when you think you won't have your life insured is when you die. You want to get ready for those things as they come along; they come to all people when they least expect them. I remember that I kept my property insured for a long while, until the New Era Exposition came to St. Joseph, and I neglected to insure it for two days, and it had no better sense than to burn during those two days. Since that I have been paying my insurance money. I have everything insured but my life. I pay the money that I pay for insurance as cheerfully as any money that I pay, and I look upon this dollar that you give this Association as an insurance, and you ought to give it if you never expect to get any benefit out of it. If each bee-keeper would send in his dollar, instead of having 400 or 500 members, we would have 5,000 members, and we would be so strong that we could say to anybody in the United States—"If you interfere with the rights of a single bee-keeper, you will run afoul of 5,000 men and women who are in earnest, and mean that their rights shall be defended." What have we in China? Why have the troops of the United States gone to China? Simply because the lives of a few men and women were in peril. Uncle Sam called out his navy and his soldiers, and is spending hundreds of thousands of dollars. Why? To protect the lives of a few individuals. That is all. As soon as their lives are protected and our citizens are fully protected, they will all come back and we will go about our business as usual. If Uncle Sam had not had the army and prestige, and demonstrated by actual experience it would not do to fool with him, the little troop we sent over to China would not have amounted to a drop in the Ocean; but the world knows and understands if she stirs up the American people that every man, woman and child, if it need be, will take arms in defense of the citizens of this country. If people had the right kind of feeling in regard to bee-keepers, there would be no petty judges to call us to account because perchance a few people got stung; they will get their rheumatism cured. They won't say to us, "You can't keep bees in the city." Our council past a resolution, and the marshal came to me and said, "Abbott, move your bees out of town." I said, "I don't move them out to-morrow, or the next day; wait until I get ready; we will settle this matter; we will go into the court; I will just law you a while before I will move my bees out of town." He consulted the city attorney, and he said to him, "You would better let Abbott's bees alone; you will get your fingers burned if you go to monkeying with him." That was the last of it. The lawyer had read the decision in Arkansas where the judge said bee-keeping was not *per se* a nuisance. That is what it means to give your dollar. You ought at least to have added $100 while I have been talking.

Dr. Mason—I wish you could get $100 apiece for every one of such talks.

"BEE-KEEPING IN THE CITY"—(Continued).

Pres. Root—When we began our recess, we were discussing the subject of bee-keeping in the city. Opportunity will now be given to discuss the matter further.

A Member—I think we have something different at home than most cities. We have sulphuric acid works; of about 325 colonies in our neighborhood not more than about 15 swarmed this season. I have an out-yard where they have swarmed very much. About 18 or 20 days after I moved them they commenced swarming; so we thought probably the acid works was what affected the bees, there being so much arsenic in the works. I don't know whether that would do it or not.

Pres. Root—Mr. Aikin perhaps can tell us something about the effect of the smelting works on the bees in Denver.

Mr. Aikin—It is true we have the smelters in Denver, and a large producing territory immediately surrounding. About 4 years ago there was a large loss of bees—they died—nobody knew why nor how, nor much about it; some said they "evaporated;" they applied that term because they disappeared so quickly. At our Colorado State convention one said it was the smelter smoke; another said it was the high winds; another said it was insects that preyed upon them; they all told their different views in regard to it; once in a while several had the same idea, yet no one could say positively what killed the bees. I said it was not the smelter smoke, because I knew a similar circumstance to that—the parties who were in that particular territory said it was the wind, others said it was the high winds; I said it was not the high winds because we had lots of high wind at my place, and no smelter smoke; the same trouble has appeared since then in less intensity, and in a territory where the smelter smoke did not go. After thinking the matter over for several years, and discussing it over and over again in our State conventions, I have come to the conclusion that we don't know yet what is the trouble. The only experience I have had is this: In 1889, in an out-yard 7 miles from headquarters, the colonies were very strong.

When I next visited that apiary, I think about 10 days afterward, I was surprised to find that those strong colonies did not show many bees. Where those bees had gone to I could not tell. They said it was the winds that did it; but when the same thing occurred a few years later in the vicinity of Denver, covering a territory of from 10 to 20 miles in diameter, the bees disappeared in the same general way. We don't know what happened to them. The same trouble was experienced a little bit last year, and a little bit the year before.

Pres. Root—I desire to break right in here. Do you wish to continue the discussion, or have a stereopticon of about 10 minutes before closing? I have a few slides showing bee-keeping in England as it is practiced to-day.

Dr. Mason—We are to have a question-box during our sessions, and somebody should have charge of that box; I move that the chairman appoint a committee of three to take charge of it. (Motion carried.)

Pres. Root—I will name on that committee O. O. Poppleton, of Florida; R. L. Taylor, of Michigan; and R. C. Aikin, of Colorado. We want the members of this Association to hand in questions; don't be afraid to ask questions on any subject whatever, and they will receive some sort of an answer.

Stereopticon views were then thrown on the screen showing the anatomy of the bee, etc., and were described by Prof. C. P. Gillette.

The convention then adjourned until 9:30 a.m. the next day.

[Continued next week.]

Contributed Articles.

Finding Queens—Various Methods Described.

BY ADRIAN GETAZ.

VERY often, beginners in bee-keeping, and others that are not beginners, have trouble in finding queens. During a honey-flow, with a colony not excessively populous, gentle bees clinging to the combs, the simplest way is to take the combs out and examine them. Put them in a comb-basket, and if the queen has not been found, look over them again, putting them in another comb-basket. Look in the hive also. It is necessary to use as little smoke as possible so as to avoid starting the queen to run and hide. I always begin at one side, first blowing a little smoke between the comb and the wall of the hive, so as to drive the queen between the combs if she happens to be against the wall. I then take out only one comb on that side and begin on the other side, continuing thruout. The object is to prevent the queen from being left on the walls of the hive.

A correspondent wrote some time ago that he frequently lost his queens, and finally got in the habit of looking under the cover of the hive before working with the colony, and often finds the queen there, that is, under the cover. That correspondent is smoking his bees entirely too much. Only enough smoke should be given at the entrance to keep the guards from starting an assault against the operator. Then raise the cover just enough to send some smoke under, and as soon as the bees begin buzzing, take off the cover. If there is a super, take it off in the same manner as you did the cover.

However, when the circumstances are not as stated above, another method must be pursued. Put an entrance-guard or a queen-trap in front of the hive. Shake every comb, as you take it out, in front of the hive, and put it in the comb-basket. When all the combs are out, look before the entrance-guard and you will find the queen there 19 out of 20 times. Sometimes, if the queen has been frightened, she may have left the combs. She may be found inside of the hive, but not often.

A frightened queen will run from the light and hide in the first crack or dark place she can find, and the most probable place she has taken is inside the entrance-guard or at the entrance of the hive right under the wall. If there is a crack in the bottom of the hive, she is almost certainly under the bottom and will turn up after awhile, after you have hunted her perhaps for hours and could swear that she is nowhere.

In some cases, I am almost certain that the queen went simply out by the "front door," and hid somewhere, probably under the hive-bottom. That was before using entrance-guards or rather queen-traps.

It takes but little shaking to drop a laying queen and most of the bees, but a virgin queen hangs to the combs much better, and very often does not fall. So if she is not found in front of the queen-trap, it is necessary to look over the combs, transferring them to another comb-basket. Do not put the combs back into the hive until the queen is found.

In hunting a virgin, I always look over the combs before putting them into the basket. If the queen is neither on the combs nor in front of the trap, I smoke the bees in the trap from *inside the hive*, and thus drive most of the bees out of the trap, and the queen in the upper story of the trap. But it is very seldom that such operation has to be resorted to.

In favorable circumstances, such as are described in the beginning of this article, and if the operator has been careful and not scared the queen, she will be found on the combs, and often she has not even interrupted her work, and can be seen laying eggs. Generally she has retreated from the light and taken refuge between the bottom of the comb and the bottom-bar, if there is a space there, as there generally is. Then when the operator looks over the comb, there begins a game of hide-and-seek.

When the operator looks for the queen he always turns the comb and himself so that the sun will be at his back and strike on the comb. As soon as the comb is in that position, the queen skips on the opposite side, remaining near the bottom and among the bees that are there; for the bees, as well as the queen, have retreated to the lower part of the combs, except those that are filling themselves with honey. Then when the operator turns the comb over, the queen skips again on the other side; not that she cares for the operator, but away from the sun and light.

After the combs have been in the comb-basket 5 or 10 minutes, the queen, if there, has generally left the bottom of the comb, and can much more easily be found on the surface of the combs.

If there are on some combs some queen-cells that are to be saved, it is better not to shake the bees, as the embyro queens might be injured. Such combs are to be put in a basket by themselves, and after 5 or 10 minutes, when the bees are quieted, examine carefully, that is, if the queen has not been found elsewhere. If the bees are piled up together, smoke them very slightly, just enough to disperse them. Those that are filling themselves with honey need not be disturbed, as the queen is not there.

Knox Co., Tenn.

Paper Drip-Catchers for Shipping-Cases.

BY G. M. DOOLITTLE.

QUESTION:—I am told that you use drip-catchers, or paper pans inside of your shipping-cases, when sending honey to market, to catch the drip from any section that may chance to get marred or the capping to the cells broken in any way so that the honey leaks, thus preventing this leak or drip from soiling the floor, counter, or cases of honey below it, as it otherwise would, were no such thing used. What I should like to know is, how you make these paper pans. I have a way of folding them over a sheet of tin, cut to fit the inside of the case, but it is rather slow where hundreds of them have to be prepared in a single season. If some one could invent a machine for doing this work, that would not be too expensive, it would be a great boon to bee-keepers. The going over each corner separately is the part which takes the most time. I think you can do the bee-keeping fraternity no greater favor at this time than by describing in the American Bee Journal your method of making these drip-catchers.

ANSWER:—As those who have section honey will be preparing the same for market at this time, this question comes in very opportunely; and I know of no one thing which helps as much to bring favor to our goods as do these drip-catchers in the bottom of each shipping-case. Some years ago, while in New York city, I saw cases of honey piled 8 to 12 high, and the drip from the upper cases ran all the way down to the floor, daubing the snow-white cases, which had been gotten out and put up with great pains, not only spoiling all their beauty, but making them a sticky, nasty mess to handle. Up to that time I had not used drip-catchers, but then resolved that I would try to fix some way so that my honey should not appear in market in that condition. That winter, while attending a bee-keepers' convention, I fell in with one of New York's most successful bee-keepers, and an arrangement was made for the holding of a convention at 10 o'clock at night, after the main session was over, the later convention to consist of two, namely, Samuel Snow and G. M. Doolittle.

At this meeting I told Mr. Snow of what I had seen in New York city, and of my resolves, but how, as yet, I had not come to any plans in the matter. He then told me how he had used drip-catchers made of paper for the prevention of leakage thru shipping-cases, telling minutely how he made them, kind of paper used, etc. The next season found me buying what is called manilla papers, of a quality costing about 7 cents a pound, in quantities sufficient for all of the cases I expected to use. I now took a ⅞-inch board and from it cut a piece that would fit the inside of my shipping-cases, a little loosely, say 1-16 of an inch play each way.

The paper was cut 1¾ inches larger each way than this board, so that when folded up evenly all around it, the sides of the paper pans or drip-catchers was just ⅞-inch deep. The pan was now slipt inside the case and little strips of wood, just as long as the case was wide, and ½-inch wide by 3-16 thick, were placed at such distances along the inside of the paper tray as was necessary, so that the ends of the sections rested on these, thus keeping the sections up 3-16 of an inch from the paper, this allowing the drip to fall below the sections so that the outside of the cases were never soiled, while the bottoms of the sections were kept clean also, if anything should occur to start the honey in them to leaking. This, of course, requires the cases to be made 3-16 of an inch deeper than they would be were it not for these little pieces of wood. But, according to my thinking, the keeping of the sections clean is of fully as much importance as the preventing of the drip thru the cases. I have kept leaking honey standing all winter in such cases with paper trays, and this manilla paper seemed sufficient to stand a wetting of honey that length of time, as none of it soakt thru so as to be sticky on the under side.

I am well aware that it takes considerable time to fold the paper for each case separately, and would prefer to buy them already folded by machinery or otherwise, provided I could buy them that way as cheap, or cheaper than I could buy the paper and fold them myself. While I have put considerable thought on the matter and done some experimenting, yet I have found no better way to fold them than doing it one by one as given above, where anything like a decent tray was to be made.

Several have told us to lay the paper on the top of the case and then place the board on top of the paper, pushing the whole to the bottom of the case, but with me the corners are sure to tear more or less, especially where slats are used at the sides so the honey is shown thru the glass. With the board plan as here given, I can fold from 80 to 100 an hour, and as each case holds 20 sections, it is not so serious a job as it looks to be at first thought, unless one produces honey up into the tons. However, if there is a quicker way that will give as neat a job every time, or one where several drip-catchers can be folded at once, I, as well as other readers of the American Bee Journal, would like to know of it.

I have taken up considerable space with this matter, but I thought that, if I said anything on the subject, it should be made so plain that any one who wisht could make and use these drip-catchers. Any and all of these little things which have a bearing on putting our honey in market in the best shape, should be lookt after, if we wish good prices for our product. And if we do not do these things, we are not only injuring ourselves, but every one else who has honey to sell.
Onondaga Co., N. Y.

Brace and Bur-Combs—Drone-Comb.

BY S. T. PETTIT.

RECENTLY in some of our bee-papers a very good thing was suggested, when the writer, in speaking of removing sections from supers, said: Set the super on edge, and with a sharp, thin knife, cut any bur-combs or brace-combs that may fasten the sections of honey to any other object. In my experience I have found that, especially if the weather is a little cool, the capping is quite liable to break and cause a leak, but if the knife be hot it will do the work safely and with satisfaction.

On page 583, Mr. Doolittle, in answering the question, "In the production of comb honey where a first or prime swarm is hived on comb-foundation starters, say two or three inches deep, and with sections on top filled with sheets of foundation, what is the best method of preventing the building of drone-comb?" says:

"But suppose a frame or two of drone-comb should be built, this can be removed from the hive the next spring, and frames of worker-comb substituted for it."

I beg to say that I remove such in the fall, after all the brood is hatcht. Years ago I found that whatever portion of such combs were of worker-comb, were very likely at clipping-time to contain brood; and I never for a moment think of going thru my hives before that time.

If there are any good reasons for leaving such combs in until spring, I should be pleased to have Mr. Doolittle tell us what they are.
Ontario, Canada.

Disposing of the Honey Crop—Some Good Advice.

BY W. Z. HUTCHINSON.

SO many bee-keepers, after having workt all summer, and produced a good crop of honey, almost "fool it away" when it comes to the marketing of the crop. Some lose it entirely by sending it to some irresponsible party. If all of the losses of this kind were known, I think some of us would be surprised. In my travels among bee-keepers, I am often surprised to learn how men of apparently good judgment have lost hundreds of dollars by sending a crop of honey to some swindler. Where is the bee-keeper who ships his honey to distant markets and has *never* been swindled? My losses in this direction have been very small—25 pounds of comb honey. This happened several years ago, when I lived at Rogersville. Some firm in Detroit wrote and wisht to buy my crop of honey, but before making an offer they wisht to see a sample. If my honey was nice, white honey they would pay 15 cents a pound for it. They askt me to send them, by express, a couple of cases; upon its arrival they would send the pay for it, and make an offer for the whole lot. They referred me to Bradstreet or Dun, or, if I preferred, I could send the honey C. O. D. Mr. West, who then lived here, sent seven cases of honey. Another man living here sent them 20 barrels of cider, having new barrels made expressly to ship the cider in. This firm of swindlers got a large amount of produce from all over the State in just this way. They sold it for cash as soon as it arrived, or else re-shipt it to another State. If one of the dupes went to Detroit he could not find his goods, nor anything else, for that matter, as nothing was stored. It was either sold or shipt at once. Of course, this firm soon found it necessary to seek a cooler climate than Detroit, but they had plenty of money with which to buy winter clothing.

Above all other considerations towers this one of knowing, *positively*, within the range of human possibilities, that the firm to which you send your produce is absolutely honest and reliable. Better sell your comb honey at 10 cents to a firm that you know will pay you 10 cents, than to a firm that offers you 15 cents, but about the honesty of which there is the slightest doubt. This is so self-evident that it seems almost like folly to repeat it, but the transactions of every year show that such advice is abundantly needed. The strong point of these swindlers is that they offer just a *little* more than the market price. Not enough more to arouse suspicion, but just enough to lead the unsuspecting victim to believe that, all things considered, this market is the best. There is usually some plausible story goes with this offer—some apparently reasonable reason why this slight advance in price can be made

Before sending honey to a firm, see how they are quoted in the commercial agencies. Consult their references if they give any. If they don't, then ask for references. This *alone* will not answer. Swindlers have a way sometimes of getting a fair rating in commercial agencies' books, or of getting good references from some bank by depositing money that may be withdrawn later. A good rating and good reference count; but, as I have said, they are not everything. In addition to this, I would advise a shipper who is in doubt, to write to the bee-journals. A great mass of correspondence goes thru the hands of an editor. If a firm is shaky, or is not dealing fairly with its customers, the editor is sure to get a hint of it right away. If a firm does not pay, or is unfair in any way, the first thing the victim does is to write to his editor and ask him what to do. A great many things come to an editor in this way that he may not feel at liberty to publish. If he did, he might lay himself open to libel; but he can give to a subscriber, privately and confidentially, what it would never do to publish.

I think that there have been very few, if any, losses where the shipper has consulted the editors of the bee-journals, and they have advised shipment. There are a few dealers in honey in this country for whom I would unhesitatingly vouch. I would mention them here, only that it would be a reflection upon the honesty of others who may be just as honest, only I am not so sure of it.

After the question of honesty and reliability is settled, comes that of ability and experience. To handle honey to the best advantage and get the best prices a man must know something of the business. I frequently hear of some man sending honey to some commission firm, perhaps because he has been sending it other produce, that knows almost nothing about the honey-business. In such cases honey is almost sure to be sacrificed.

Then there is occasionally a dealer or commission man who, while he may be an out and out swindler, that is, he may make some kind of returns for the goods consigned him, yet there is always something wrong. Either the honey is badly broken, or the packages are leaking, or the bottom has dropt out of the market since the shipment was made. I don't mean to say that none of these things ever happen, but there is occasionally a firm that makes such reports, when it thinks it safe to do so, even when they have not happened. Then there are some firms that are very slow pay. As I have said before, write to your bee-keeper editors. All of these things come to their knowledge.

The question of whether a man shall sell his crop out and out, or ship on commission, is one that has been much discust. Both plans have their advantages and disadvantages. If sold out and out for a certain price that has been agreed upon, there is no uncertainty and no chance for a dispute or dissatisfaction. The shipper knows exactly how much he is to get for it, and when he will get it; provided, of course, that he is dealing with a reliable firm. On the other hand, a dealer can afford to pay as much cash down, using his own money, as he might be able to get for the goods if he had them on commission. There must be a greater margin for profit if he buys them and puts his own money into them, than when he is doing business on the capital of the shipper, and the latter is taking the risk of a change in the market. If the dealer buys the goods he must buy them at such a price that he can afford to put his own money into them, and then take his chances of making the profit. There has been a lot of talk about the commission man doing business on the other fellow's capital. It is true that he *does*, and that is the very reason why he can afford to do it on a less margin.

Some shippers limit their commission man. They say, "Get 15 cents for that honey, or don't sell it." I have done this, and made money by doing it; and I have also lost by the same operation. I knew one bee-keeper who made a large shipment of comb honey, and limited his commission man, and the result was that most of the honey was held until in February, when it began to candy, and was then sold at a greatly reduced price. As a rule, I think it better not to limit the dealer. He is right on the ground. He knows the markets, the supply and the demand, the prospects etc., better than does any one else. I would not send my honey to a dealer unless I had confidence in him, and believed that he would do the best he could, and, having put my honey in his hands to sell, I would not turn around and tie those hands.

Much has been written and said in favor of developing a home market, and of every man selling his own honey, and all that. If a man has a good home market, or can develop one, or if he is a good salesman, such a course is all right, but the best locality for producing honey is often a very poor one for selling, and the best bee-keeper is sometimes the poorest kind of a salesman. In such cases it is wisdom to seek distant markets, and to employ somebody to do the selling.

Lastly, comes the question of when to sell, and it is the most puzzling of any. When there is a large crop the tendency of prices is downward. The man who sells early, before the fall in prices, is fortunate. Knowing this, there is a tendency to rush the honey into market when it becomes known that there is a bountiful crop. This puts the prices down still farther; and the bee-journals have been blamed for reporting large crops because such reports tend to lower prices. If there is a short crop it seems to be all right to report it, as it tends to raise prices.

This matter of when to sell is one of those questions that each man must decide for himself. If there is a short crop generally, and prices are advancing gradually, it certainly seems safe to hold honey a reasonable length of time. As a rule, however, I would not hold honey until winter. Bro. York recently advised his readers to sell at once if they could get a fair price; and mentioned 14 cents as what he would consider a fair price for comb honey. I think that he is not far out of the way. If I had honey to sell I should hold it at 15 cents. If I could get that I should let it go. If not, then I should hold it and watch the market. It may possibly go a cent or two above that, but I doubt it.

Yes, there is one more little point, and that is *where* to sell. It often happens that the dealers in the large centers, like Chicago and New York, do not pay so much for honey as can be obtained in some of the smaller cities. A man with a produce of any kind to sell should be alert and watchful. I once sold my entire crop of comb honey in Detroit at 17 cents a pound, when the market in all of the other cities was only 15 cents at the top notch. I saw the quotations in a Detroit daily; took a sample case and skipt at once for Detroit; sold my honey; came home and shipt it the next day; and, within a week, the Detroit market was glutted, and prices away down. Last year, at the Springfield, Ill., fair, I was offered 12 cents. I stopt at Chicago while on my way home, and was offered 13 cents. I came on home, and did some correspondence, finally selling it to a Columbus, Ohio, firm for 15 cents on board the cars here at Flint.

In closing, I can only repeat what I said at the beginning: Having workt hard and produced a crop, don't fool it away. Don't send it to a swindler, nor an irresponsible or inexperienced commission man, but thoroly investigate the whole matter, and market your honey in a safe, intelligent, and profitable manner, instead of simply sending it off haphazard, and then "kicking" yourself afterwards for some loss that might have been prevented.—Bee-Keepers' Review.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Bee-Keepers' Right to Bee-Pasturage.

DR. MILLER:—I have been much interested in your department, and I believe there is only one article that I have read from your pen with which I disagree. In that you speak so positively, I think perhaps you have lookt at it only from one point of view. Of course we are all subject to prejudice and especially to that developt by a habit of thought caused by following a generally accepted idea. I am simply going to call your attention to the other side of the question. I refer to the matter of legislation to keep apiarists from encroaching upon each other's territory.

Assuming that it could be determined with any degree of accuracy, how much territory a given apiary needs, the fact still remains that the right to use that territory as a bee-pasture belongs to the public, and I fail to see how an individual gains possession of that right by occupying and using it for 5, 10, 50, or 100 years. If it pays a man to encroach upon another's territory he has a right to do it; otherwise the other man would be enjoying a monopoly of that which belongs to the public. CALIFORNIA.

ANSWER.—I am afraid you misunderstand just a little the position in which I stand. So far as I hold any view at all at variance with the views of my fellow bee-keepers, it does not lie in the direction you indicate. That a man who has for 25 years kept in a given locality an apiary sufficiently large fully to stock the territory, has a better right to that territory than any new comer, is not my view but the view of the entire fraternity, yourself excepted, so far as can be judged from any expression of opinion heretofore given.

Let me try to give in a very few words the view that I have advocated, in which my brethren do not all coincide: They say, "The man first on the ground has a moral right to the location, and the man that encroaches upon his territory is doing wrong, but you must have no legislation that would make it a legal wrong. It must be left altogether to a man's sense of honor." To this I reply: "I do not see why you should make such distinction. If a man's cow trespasses upon my cornfield, it is not left to his sense of honor to keep her out and pay me for damages, but the law compels him to do what his sense of honor might or might not enforce. Should he not likewise be compelled by law in the matter of the much greater damage done me as a bee-keeper?"

With your view of the case you would probably say that one man has as good right to the location as another, and I should reply that we will not quarrel about that, but start upon a platform upon which we both stand. One of the drawbacks to bee-keeping is its uncertainty as a business, and it is made doubly uncertain by the fact that I have no sure tenure of a location. If a man had no stronger hold upon his farm, he would hesitate a little about putting in a crop. Farm lands were all public property, but it was for the public good that a man should have a certain right to a certain portion of land, and laws were framed accordingly. What I believe would be for the general good would be to have by purchase or some other way the same right to a crop of honey as to a crop of corn. That's the whole thing in a nutshell.

Hives and Sections—Sulphuring Honey.

I think before asking some questions about hives and sections I ought to say that I have only three or four hives, and wish to run for comb honey.

1. Which would you advise me to get, the Danzenbaker hive or the 8-frame dovetailed, for comb honey?

2. Which sections would you advise me to use, the plain section and fence, the Danzenbaker tall sections, or the old-style 4¼x4¼?

3. I took a comb of ¾ sealed honey from a hive, and finding moths in it I sulphured it. I let the vapor settle, and it has a slightly greenish tinge. Will that honey be bad for the bees to winter on? I did not kill the moths, and, as I do not wish to put it back in the hive until the middle of October, and as by that time the moths will have ruined the comb, do you think I would better set it by the hive and let the bees clean it? This hive is a long way distant from the others, so I do not fear robber-bees.

Minnesota.

Answers.—1. My preference is for the dovetailed, but you might think differently.

2. That's a very hard question to answer. Something depends upon your own tastes and something upon your markets. Either one well managed will bring good results, and perhaps your safe plan would be to use that which is already on your market, trying anything else on a small scale.

3. The sulphur on the comb will not hurt the bees. Unless the hive is half a mile or more distant from other colonies, there would be danger of robbing if you set a comb of honey outside the hive. What's the harm of putting the comb in the hive now? You might kill the worms with bisulphide of carbon, or even with a heavier dose of sulphur. You can take a wire nail and pick out the large worms, for it is only large worms that would fail to be killed by sulphuring heavy enough to make the combs green.

Introducing Queens—Laying Workers—A Reverent Apology.

1. Whenever one has bees working above a queen-excluder has he not the means for introducing a queen speedily and with absolute safety by placing the hive on a bottom-board prepared to shut the bees in, and at the same time give ventilation? It seems to me that this is better than the Doolittle caged-bees plan, as one can have bees ready to receive a queen at any and all times with very little trouble.

2. Here I wish to say that I have written some things about laying workers that I should not write with my present knowledge and experience. My practice now is to unite the laying-worker colony with a colony having a laying queen. The frames when cleared of brood can be used where they will be of most advantage. The plan I once recommended, of making a nucleus with laying queen and then build up the nucleus with frames from the hive having the laying-workers, is liable at times to start robbing, and so I abandoned it.

3. And now I wish to apologize to you, Dr. Miller, and to others, for the rough and seemingly irreverent way in which I have sometimes alluded to them, and to some of the things they have written. I am not irreverent or unkind, and as I am nearing the 70th milestone in my journey of life, and have not long to live at most, I wish to leave the world feeling that there are none in it who entertain any but kindly sentiments towards me. Edwin Bevins.

Answers.—1. Many things look all right in theory, but the miserable bees don't always understand just what is expected of them, and deliberately upset one's best plans. At least that's the way my bees have treated me. I'm afraid that actual trial of your plan would result in a dead queen oftener than the caging plan. But it might be worth trying.

2. You have come to the same place at which every one will land who has had sufficient experience with laying workers, that the best thing is to break up the colony in the great majority of cases. If you have plenty of brood and bees that you can use just as well as not, it may sometimes pay to give to such a colony several frames of brood with adhering bees, and then treat it as a queenless colony, but generally that is not as well as to break up the whole business. If you have a young queen that has just emerged from her cell, she may be accepted in a colony of laying workers, and she may not. It's hard for one to give up the idea of trying first one plan and then another for continuing a colony with laying workers, and one will fight hard against breaking up all such colonies, but he'll get to that practice if he lives long enough.

3. Bless your heart, Mr. Bevins, I don't believe any of us feel sour toward you at all. There's always a streak of good nature underlying all you say, and for one I'm always glad to see anything from your pen.

Apicultural Jurisprudence—Straining Honey—Feeding—Eastern Oklahoma.

1. In Mr. Newman's report in the American Bee Journal for Jan. 25th, he tells about the case of Mr. Buchheim. Do you know anything about the case? Were city ordinances, prohibiting the keeping of bees within city limits, declared unconstitutional? If so, was the decision based on principles of the common law which would apply in any State, or on principles peculiar to the laws and constitution of this State?

2. Where can I get literature on apicultural jurisprudence in general?

3. What do you think about the necessity of straining honey thru cheese-cloth? Do you know of any convenient method or device for doing it without expending too much time and patience?

4. Can you tell us, approximately, how much honey it would take to duplicate a colony by feeding when other colonies are just gathering enough to hold their own—taking a colony of given strength and amount of comb, of course?

5. How is eastern Oklahoma for bees? Is alfalfa raised there? If so, does it yield much nectar in that locality?

Subscriber.

Answers.—1. I only know what has been in print on the subject. I don't know upon what the decision was based, but I think the same decision would obtain in any State. But I may be mistaken, and am ready for correction.

2. Can any one tell?

3. It is decidedly important that there should be nothing but the honey itself present, and some means should be used to remove all other matters. For small quantities perhaps nothing is better than to strain thru cheese-cloth, making sure that the strainer be not too small. For large quantities it is better to have the honey go from the extractor into a tank, with an arrangement for drawing off the honey from the bottom after the impurities have had time to rise to the top.

4. I'm not sure whether I understand the question. If it means how much honey must be fed a colony in order to make two colonies out of it at a time when other colonies gather only enough for their daily needs, I should guess 50 or 60 pounds. But the guess may be wild.

5. Will some one tell us?

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GENERAL ITEMS

Bees Did Fairly Well.

Bees have done fairly well in this section, which is a poor locality, and I am somewhat anxious about their getting winter stores. J. H. CLUTE.

Essex Co., N. J., Sept. 17.

A Beginner's Experience.

This is my second season in bee-keeping. Last season I was so lucky as to have a swarm of Italian bees settle in my yard, which I hived in a shoe-box, having nothing better on hand. They filled the box, which I shall call No. 1. This year, about the last of April, it sent out a very fine, large swarm, which I saved and will call No. 2. About 10 days later No. 1 cast another swarm about the same size—No. 3, which went off in my absence. About two months from that time No. 2 cast a swarm—No. 4, and on Sept. 10 No. 4 swarmed—No. 5. Now what ought I to have done with No. 5? I had no comb to put them on, and did not know enough to find the queen so as to return it to No. 4. Shall I try to feed them thru? They seem to be working nicely. No. 1 is filling the super and has it nearly full. No. 2 is about ready to work in the super.

FRED R. HAWKINS.

Edgar Co., Ill., Sept. 15.

[We should unite No. 5 with the weakest of the other four, first killing the poorer queen of the two. Then next spring, if the combination winters well, and is strong, divide it about the middle of May.—EDITOR.]

Fall Crop a Failure.

The white clover here did not yield an ounce of honey, and owing to excessive drouth in this immediate vicinity, our fall crop is a failure.

E. T. FLANAGAN.

St. Clair Co., Ill., Sept. 12.

My First Year's Experience.

Since a boy I always have had a great fancy for bees, tho not until last December did I gratify this fancy, when I bought four colonies, and in February I purchast 11 more colonies. Out of 15 colonies two, which proved

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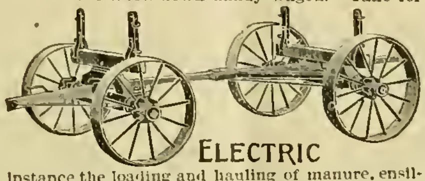

instance the loading and hauling of manure, ensilage corn, grain in the straw, corn fodder, hay, &c., all hard to load, the use and advantages of a low down wagon are almost inestimable. The Electric Low Down Handy Wagon excels for these purposes. Has the famous Electric steel wheels, is light, strong and durable. Write Electric Wheel Co., Box 6 Quincy, Ill., for catalog.

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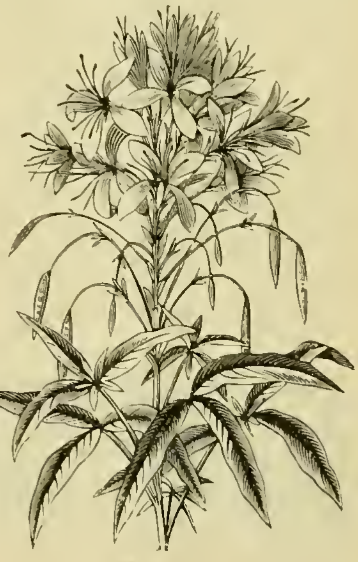

ally on the Rocky Mountains, and in Colorado, where it is said to furnish large quantities of honey."

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weak ones, died, and one short of stores left for parts unknown. So much for inexperience with bees.

At this point I purchast a copy of "A B C of Bee-Culture," which proved an indispensable help to me. I then subscribed for the American Bee Journal and Gleanings in Bee-Culture, both of which have given me a great deal of very valuable information. I practiced the clip-wing plan, and put the swarm on the old stand; two colonies never swarmed. So starting with 12 colonies, I increast to 25, and one second swarm took leave of me.

I harvested 700 pounds of comb honey this season from 12 colonies, spring count. There will be no fall flow on account of drouth. My colonies are well provided with stores for the winter. I have already made sale of the greater part of my crop thru the home markct at a satisfactory price.

So with my first year's experience, I feel very much encouraged.

LESLIE H. MCCUE.
Albemarle Co., Va., Sept. 11.

Drouth and Grasshoppers.

While in some portions of this State this season the honey-flow was all right, with big crops, in many places there has not been over half a crop, and in some places, owing to drouth and grasshoppers, the season was nearly a total failure for many of our bee-keepers. As an illustration of the uncertainty of bee-keeping, I would say that while last year in the north and central parts of the State we had a cold spring, we had a good honey-flow later, but many colonies of bees failed to build up, so were in no condition to gather it; but this year we had a beautiful spring, with the hives full of bees, then came a dry, red-hot June,

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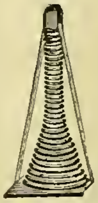

Queen-Clipping Device Free....

The MONETTE Queen-Clipping Device is a fine thing for use in catching and clipping Queens wings. We mail it for 25 cents; or will send it FREE as a premium for sending us ONE NEW subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,

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If you are interested in Sheep in any way you cannot afford to be without the best Sheep Paper publisht in the United States.

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has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.

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You pay for what you get in this world. You understand that. But as a business proposition we want you to try our great medicine for Indigestion, Constipation, Biliousness, Sick Headache, Insomnia, "the Blues," and like complaints—

Laxative NERVO-VITAL Tablets

We know you won't buy it, until you know something about it. The best way to get you to know how good it is, is to let you try it. That's what we do. Send Stamp for "Health" booklet, and we will send you a free sample package, that you may try it yourself. We know you will always keep it in the house, if you once try it. What fairer offer could we make? At all Druggists—10 and 25 cents.

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If, instead of sending for a sample, you send us 25c we will send you "Health" booklet, a 25c box and a handsome gold stick-pin, set with emerald, ruby or pearl, warranted to be worth double the money. Order by number. This is an extra introductory offer. Only one pin to one person. If unsatisfactory, money returned. Send now while the offer is good.

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[This company will do exactly as it promises.—Editors.]

SPECIAL NOTICE!

Last winter's cut of basswood is the whitest it has been for many seasons. We are now making sections out of this new stock and therefore are in a position to furnish you with the very finest quality in the market.

LEWIS WHITE-POLISHT SECTIONS

Are perfect in workmanship and color.

Orders shipt immediately upon receipt. A complete line of everything needed in the apiary. Five different styles of Bee-Hives.

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We Are Importers and Breeders of Belgian Hares. Our stud is led by Wantage Fox, (score 96); Champion Duke of Cheshire, (winner 13 First and Gold medal); Buttercup (score 96). We have an unusually good lot of youngsters. For prices, etc., address our Chicago office.

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"The Prohibition Hand-Book and Voter's Manual," Size, 5x7 Inches; 50 Pages.

It contains Platform, Sketches, Pictures and Letters of Acceptance of Candidates and much valuable Statistical matter. Full of Facts. An Argument Settler. Pass them around. Price, 10c per copy, postpaid; $1.00 per dozen, postpaid. Send your order at once to

ALONZO E. WILSON, Room 823—153 La Salle St., Chicago, Ill.

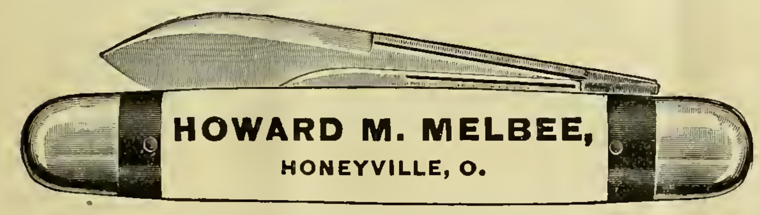
IT PAYS TO DEHORN. Hornless cows give more milk. Hornless steers make better beef.

The best dehorner, the most humane and easiest to use is the ***Keystone Dehorning Knife*** Cuts on four sides at once, without crushing or bruising. Endorsed by leading colleges. Highest award at world's fair. Send for circulars. M. T. PHILLIPS, Pomeroy, Pa., (Successor to A. C. BROSIUS)

Please mention Bee Journal when writing.

The Novelty Pocket-Knife.

Your Name and Address on one side—Three Bees on the other side.



[This Cut is the Full Size of the Knife.]

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your Pocket-Knife will serve as an identifier; and in case of death, your relatives will at once be notified of the accident.

How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

How to Get this Valuable Knife.—We send it postpaid for $1.10, or give it as a Premium to the one sending us three new subscribers to the Bee Journal (with $3.00.) We will club the Novelty Knife and the Bee Journal for one year, both for $1.90.

GEORGE W. YORK & CO., 118 Mich. St., Chicago, Ill.

☞ Please allow about two weeks for your knife order to be filled.

the hottest ever known in this State, and it scorcht much of the bloom and dried up the irrigation water; and, as it is said misfortunes seldom come single-handed, so then came the grasshoppers. Why, for about three weeks around one of my apiaries it was but a dry aching void of everything green. As far as looks were concerned, you could'nt tell an alfalfa field from a barnyard, or an apple tree from a plum tree; and some days, just before sundown, the grasshoppers would gather up to roost on the bee-hives so thick that you could scarcely tell a white hive from a black one; and while they bit and killed a few bees, they did leave the hives; but I felt mean enough to wish them all in the lake or some other good place.

There is another old adage, that things are never so bad but they might be worse, so one morning I went out to the bees, and I don't know which feeling predominated, discouragement or disgust, and what should I find but those blessed gulls from off the islands in the Salt Lake, devouring the "hoppers" by the wholesale, and while I got about the biggest dose they are mostly gone now, but thy left no bloom except some Rocky Mountain honey-plant which they would not eat, and the bees have gathered some honey from fields farther away, so they will average a surplus of about 35 to 40 pounds, which is my first flat failure in 15 years.

The above is not exaggerated at all, as it was really a sickening sight to see those "hoppers" gather up to roost in the evening on the bee-hives, the sweet clover stems, the fences and trees. A near neighbor, who has 15 acres of orchard, had many of his trees

DITTMER'S FOUNDATION Wholesale and Retail

This foundation is made by an absolutely non-dipping process, thereby producing a perfectly clear and pliable foundation that retains the odor and color of beeswax, and is free from dirt.

Working wax into foundation for cash, a specialty. Write for samples and prices.

A full line of Supplies at the very lowest prices, and in any quantity. Best quality and prompt shipment. Send for large, illustrated catalog.

GUS. DITTMER, Augusta, Wis.

Beeswax Wanted.

Please mention Bee Journal when writing.

BEES QUEENS Smokers, Sections, Comb Foundation And all Apiarian Supplies cheap. Send for FREE Catalogue. E. T. FLANAGAN, Belleville, Ill.

Please mention Bee Journal when writing.

BEES FOR SALE

Full colonies of good stock shipt in 8-frame hive, complete, $4.00; in 10-frame hive, $4.50. B. A. Aldrich, Smithland, Woodbury Co. Iowa.

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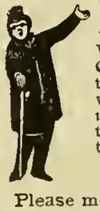


Best on Earth

What? Our New Champion Winter-Cases. And to introduce them thruout the United States and Canada we will sell them at a liberal discount until Oct 15, 1900. Send for quotations. We are also headquarters for the No-Drip Shipping-Cases.

R. H. SCHMIDT & CO.
Sheboygan, Wisconsin.

Please mention Bee Journal when writing.

left with the fruit hanging glistening in the sun without a leaf on them; but the "hoppers" were so bad only in certain localities. In some alfalfa fields they would scarcely leave a green stem, while in other fields a mile or so away it was still in full bloom.

E. S. Lovesy.

Salt Lake Co., Utah, Sept. 7.

BEEDOM BOILED DOWN

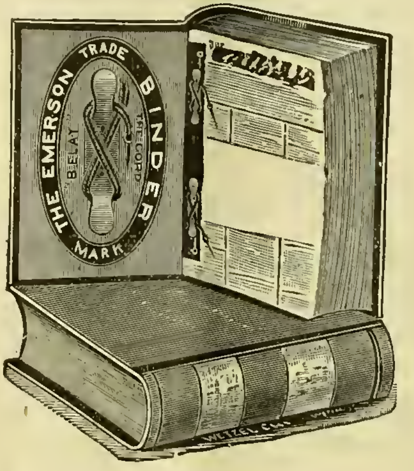
Queen-Rearing.—Editor Root gives some interesting information as to the practical work of queen-rearing at Medina, in Gleanings. After mentioning the different methods, he says:

> Mr. Wardell has tried faithfully and carefully all these methods, and at the present time he is using all of them side by side. The result is, he has drifted somewhat from his first love—the Doolittle plan—and now prefers drone-comb, grafting with royal jelly and larvæ every fourth cell. That is to say, he grafts one drone-cell, skips two, which he destroys, then grafts the next one, and so on. He will take an ordinary queen-cell of the right age, when it has the largest amount of royal food, and with the quantity in that cell he will supply 20 ordinary drone-cups with sufficient food to give the cells which he grafts a good start. But before the drone-cells are grafted he enlarges the opening of the cell by means of a blunt stick. The grafted cells of drone-comb are then fastened on a stick and inserted in a frame. It is next given to a queenless colony that has previously been fed up for three or four days, and then deprived of all unsealed brood.
>
> COLONIES FOR CELL-BUILDING.
>
> He now prefers queenless colonies, or colonies that are about to supersede their queens, to upper stories having a reigning queen below. He says the upper-story plan is all right during the swarming-time, but it is impracticable (altho he can use them) after the honey-flow.
>
> Mr. Wardell has recently been using worker-cells in place of drone-comb, which sometimes he does not have, and with them he secures uniformly good results. Yet, all things considered, he prefers the drone-comb when he can get it.
>
> He wishes it to be distinctly understood that he does not condemn the Pridgen method, which he says is all right, but that he can graft a certain number of drone-cells, or Doolittle

The Emerson Binder

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

GEORGE W. YORK & CO.
118 Michigan Street, CHICAGO, ILL.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BELAY
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The Mississippi Valley Democrat
—AND—
Journal of Agriculture,
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A wide-awake, practical Western paper for wide-awake, practical Western farmers, stock-raisers, poultry people and fruit-growers, to learn the science of breeding, feeding and management. Special departments for horses, cattle, hogs, sheep, poultry and dairy. No farmer can afford to do without it.

It stands for American farmers and producers. It is the leading exponent of agriculture as a business, and at the same time the champion of the Agricultural States and the producer in politics. **Subscription, One Dollar a Year.**

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PATENT WIRED COMB FOUNDATION
Has no Sag in Brood-Frames.
Thin Flat-Bottom Foundation
Has no Fishbone in the Surplus Honey.
Being the cleanest is usually workt the quickest of any foundation made.
J. A. VAN DEUSEN,
Sole Manufacturer,
Spront Brook, Montgomery Co., N.Y.
Please mention Bee Journal when writing.

For Sale APIARY IN Basswood Belt in WISCONSIN. For particulars address
M. H. WRIGHT, Greenwood, Clark Co., Wis.
39A4t Please mention the Bee Journal.

25 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 25 cents a pound—CASH—for best yellow, upon its receipt, or 28 cents in trade. Impure wax not taken at any price.
Address as follows, very plainly,
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FOR HOMESEEKERS.

The Chicago, Milwaukee & St. Paul R'y will sell regular Homeseekers' Excursion tickets to all points in South Dakota, at one fare plus $2.00 for the round trip, on Sept. 18 and Oct. 2, 1900. This will enable parties to visit the Corn Belt Exposition to be held in Mitchell, S. D., Sept. 26 to Oct. 4, 1900, inclusive. This exposition is held to demonstrate the great agricultural resources, wealth and possibilities of this thriving State. The exposition is held in a gorgeously decorated corn-palace, which for beauty can hardly be excelled anywhere by a building of a temporary nature. There are thousands of acres of cheap lands left in South Dakota that will, under the present conditions in that State rapidly increase in price, and the holding of this corn-palace with its many attractions, that both amuse and instruct, should be an opportunity that all land and investment seekers should embrace.

For further information apply to any ticket agent of the Chicago, Milwaukee & St. Paul R'y, or address Geo. H. Heafford, General Passenger Agent, Chicago. 39A3t

Langstroth on... The Honey-Bee

Revised by Dadant—1899 Edition.

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains over 500 pages, being revised by those large, practical bee-keepers, so well-known to all the readers of the American Bee Journal—Chas. Dadant & Son. Each subject is clearly and thoroly explained, so that by following the instructions of this book one cannot fail to be wonderfully helpt on the way to success with bees.

The book we mail for $1.25, or club it with the American Bee Journal for one year—both for $1.75; or, we will mail it as a premium for sending us THREE NEW subscribers to the Bee Journal for one year, with $3.00.

This is a splendid chance to get a grand bee-book for a very little money or work.

GEORGE W. YORK & CO.
118 Michigan Street, - CHICAGO, ILL.

Utah.—There will be a meeting of the Utah Bee-Keepers' Association in the City and County Building, Salt Lake City, Oct. 6, 1900, at 10 o'clock a.m., to which all are cordially invited. A full program in the interest of the industry will be presented. Correspondence is solicited. Send in questions and send us the addresses of other bee-keepers. Among the subjects it is desired to consider are the purchase of supplies and the disposing of bee-products.

E. S. Lovesy, Pres. J. B. Fagg, Sec'y.

cups, with larvæ and royal food, in less time than he can prepare a given number of cells *a la* Pridgen by transferring cocoons; and he also believes that those cells that contain royal food will be more likely to be accepted. While the royal jelly is not absolutely necessary, yet from many experiments he is convinced that it furnishes a larger percent of accepted cells. He has now charge of our 500 colonies and nuclei, and almost alone he keeps the whole number at work. His experience with us for the last two years must, therefore, be somewhat extended.

HOW TO GET DRONES OUT OF SEASON.

Some little time ago he complained that he was not able to get sufficient drones for fertilizing our queens; that he might give a queenless colony crames of drone-comb, and feed them ever so carefully, yet the queens would not lay in drone-comb; but he partially solved the problem in this way: He gives a colony a frame containing two-thirds worker-comb and about one-third drone near the bottom edges. The queen will start laying in worker-cells, and as her circle enlarges she will gradually work over into the drone-cells. In this way he thinks he "steals a march" on the queens and bees, for he has been able to secure drones from choice stock, and at a season of the year when it is very difficult to get a good supply of choice drones.

Soon after the Philadelphia convention last year I askt Mr. Doolittle how he managed this difficult problem. "I don't manage it very successfully," said he. "At a certain period in the summer there is a time when bees will almost refuse to rear drones." If so good an authority as Doolittle has been floored, perhaps this kink will be worth much to many of our queen-breeders.

263 CELLS FROM ONE COLONY.

A moment ago I spoke of the fact that Mr. Wardell uses, when he can, colonies that are are about to supersede their queens. He always keeps such colonies, as he considers them a real acquisition. One such colony has reared him 263 cells. The bees have been trying to supersede their queen all this time; but before they can possibly get a young mother he takes away their cells and makes them go all over their work again. This colony has actually reared batches of cells, batch after batch, and yet they go on faithfully, building cells without a murmur, in the hope that, in the sweet by-and-by they will be able to rear a young queen that will relieve the reigning mother. They have continued this till they have reacht the total number of 263 cells, and how much longer they will keep this up remains to be seen. He has other supersedure colonies that he is working in the same way, but none of them have approacht anywhere near the record of this one. Possibly the bees have learned that, so long as they rear cells, they are liberally fed. If so, they are worthy of their hire.

Illinois.—The annual meeting of the Northern Illinois Bee-Keepers' Association, will be held in the Court House in Freeport, Ill., on Tuesday and Wednesday, Oct. 16 and 17, 1900. All are cordially invited to attend.

B. KENNEDY, Sec.
R. F. D. No. 5, Rockford, Ill.

BEE-BOOKS

SENT POSTPAID BY

George W. York & Co. 118 Mich. St. Chicago.

Bees and Honey, or Management of an Apiary for Pleasure and Profit, by Thomas G. Newman.—It is nicely illustrated, contains 160 pages, beautifully printed in the highest style of the art, and bound in cloth, gold-lettered. Price, in cloth, 75 cents; in paper, 50 cents.

Langstroth on the Honey-Bee, revised by Dadant.—This classic in bee-culture has been entirely re-written, and is fully illustrated. It treats of everything relating to bees and bee-keeping. No apiarian library is complete without this standard work by Rev. L. L. Langstroth—the Father of American Bee-Culture. It has 520 pages, bound in cloth. Price, $1.25.

Bee-Keepers' Guide, or Manual of the Apiary, by Prof. A. J. Cook, of the Michigan Agricultural College.—This book is not only instructive and helpful as a guide in bee-keeping, but is interesting and thoroly practical and scientific. It contains a full delineation of the anatomy and physiology of bees. 460 pages, bound in cloth and fully illustrated. Price, $1.25.

Scientific Queen-Rearing, as Practically Applied, by G. M. Doolittle.—A method by which the very best of queen-bees are reared in perfect accord with Nature's way. Bound in cloth and illustrated. Price, $1.00.

A B C of Bee-Culture, by A. I. Root.—A cyclopædia of 400 pages, describing everything pertaining to the care of the honey-bees. Contains 300 engravings. It was written especially for beginners. Bound in cloth. Price, $1.20.

Advanced Bee-Culture, Its Methods and Management, by W. Z. Hutchinson.—The author of this work is a practical and entertaining writer. You should read his book; 90 pages, bound in paper, and illustrated. Price, 50 cents.

Rational Bee-Keeping, by Dr. John Dzierzon.—This is a translation of his latest German book on bee-culture. It has 350 pages, bound in paper covers, $1.00.

Bienen-Kultur, by Thos. G Newman.—This is a German translation of the principal portion of the book called "Bees and Honey." 100-page pamphlet. Price, 25 cents.

Bienenzucht und Honiggewinnung, nach der neuesten methode (German) by J. F. Eggers.—This book gives the latest and most approved methods of bee-keeping in an easy, comprehensive style, with illustrations to suit the subject. 50 pages, board cover. Price, 50 cents.

Bee-Keeping for Beginners, by Dr. J. P. H. Brown, of Georgia.—A practical and condenst treatise on the honey-bee, giving the best modes of management in order to secure the most profit. 110 pages, bound in paper. Price, 50 cts.

Bee-Keeping for Profit, by Dr. G. L. Tinker.—Revised and enlarged. It details the author's "new system, or how to get the largest yields of comb or extracted honey." 80 pages, illustrated. Price, 25 cents.

Apiary Register, by Thomas G. Newman.—Devotes two pages to a colony. Leather binding. Price, for 50 colonies, $1.00; for 100 colonies, $1.25.

Dr. Howard's Book on Foul Brood.—Gives the McEvoy Treatment and reviews the experiments of others. Price, 25 cents.

Winter Problem in Bee-Keeping, by G. R. Pierce.—Result of 25 years' experience. 30 cts.

Foul Brood Treatment, by Prof. F. R. Cheshire.—Its Cause and Prevention. Price, 10 cts.

Foul Brood, by A. R. Kohnke.—Origin, Development and Cure. Price, 10 cents.

Capons and Caponizing, by Dr. Sawyer, Fanny Field, and others.—Illustrated. All about caponizing fowls, and thus how to make the most money in poultry-raising. 64 pages. Price, 20c.

Our Poultry Doctor, or Health in the Poultry Yard and How to Cure Sick Fowls, by Fanny Field.—Everything about Poultry Diseases and their Cure. 64 pages. Price, 20 cents.

Poultry for Market and Poultry for Profit, by Fanny Field.—Tells everything about Poultry Business. 64 pages. Price, 20 cents.

STUDY EMPLOYMENT at home or traveling $3.00 to $5.00 per day guaranteed. Send for particulars at once.
THE INTERSTATE ART CO., Alverton, Pa.

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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Sept. 20.—Choice to fancy comb is selling at 15@16c per pound; good to No. 1, 14@15c; No. 2, white, 12@13c; amber, 11@12c; off grades, including buckwheat, from 9@10c. Extracted white, 7¾@8c; ambers, 7@7½c; dark and off grades, 6½@7c. Beeswax, 28c.
The market is strong, and sales are prompt of nearly all arrivals. R. A. BURNETT & Co.

KANSAS CITY, Sept. 13.—Fancy white comb honey, 14@15c; No. 1 white, 13½@14c; No. 1 amber, 12c; dark, 11@11½c. Market firm, demand good, receipts light. Beeswax, 25@30c.
W. R. CROMWELL PRODUCE CO.,
Successors to C. C. Clemons & Co.

NEW YORK, Sept. 8.—Comb honey in good demand, all grades. Supply light, and arrivals sell readily at 15@16c for fancy white; 13@14c No. 1 white; 12c for amber and 10@11c for buckwheat. Extracted in fair demand at 7@7½c for white, 6½@7c for light amber; 6c amber, and 5½c dark. Beeswax firm at 28c.
HILDRETH & SEGELKEN.

BOSTON, Sept. 21.—Our honey market is very strong at the following prices, with supplies very light: Fancy one-pound cartons, 17c; A No. 1, 15@16c; No. 1, 15c; No. 2, 12@13c. Extracted from 7½@8½ cents, according to quality.
Can see no reason why these prices should not be well maintained right thru the season.
BLAKE, SCOTT & LEE,

CINCINNATI, Sept. 21.—The demand for fancy comb honey is good and finds ready sale at 16@16½c; No. 1, 15c. The demand for extracted honey at present is slow and offer same by the barrel as follows: White clover, 8½@9c; Southern, 6½@7½c; Florida, 7@8 cents, according to quality. Beeswax, 27c.
The above are MY SELLING PRICES. I do not handle any honey on commission, but pay spot cash on delivery. C. H. W. WEBER.

ALBANY, N. Y., Sept. 22.—Demand good, now at firm prices: White comb, 15@16c; mixt white, 13@15c; amber, 12@13c: buckwheat, 11@12c. Extracted, white, 8@9c; mixt white, 8@8½c; amber, 7@7½c; buckwheat, 6@6½c. H. R. WRIGHT.

BUFFALO, Sept. 21.—Fancy white one-pound comb very active, mostly 16c; few small sales extra fancy, 17c, with 18c askt. Lower grades accordingly 15@8c, as inspect. Demand improving. Extracted honey, 5@7c. Fancy beeswax selling to-day 30@33c; other grades 27@25c.
BATTERSON & CO.

DETROIT, Sept. 21.—Fancy white comb 15@16c; No. 1, 13@14c; amber and dark, 10@12c. Extracted, white, 7@8c; dark, 5@6c. Beeswax, 25@26c. M. H. HUNT & SON.

SAN FRANCISCO, Sept. 12.—White comb, 12½@13½ cents; amber, 11½@12½c; dark, 7½@9c. Extracted, white, 7½@8c; light amber 6¾@7¼c; amber, 5½@6½c. Beeswax. 26@28c.
There is a very healthy tone to the market, which bids fair to continue thruout the season. Spot supplies are light of all descriptions, and buyers are not lacking at full current rates.

WANTED—HONEY AND BEESWAX.
We have a tremendous and growing trade in this line, and would like to hear from all who have such goods to sell in any part of the country, with quality, description, and lowest cash price. THOS. C. STANLEY & SON, Fairfield, Ill.

WANTED COMB HONEY AND EXTRACTED HONEY. Will buy your honey, no matter what quantity. Mail sample with your price expected delivered in Cincinnati. I pay cash on delivery. C. H. W. WEBER, 2146 Central Ave., CINCINNATI, OHIO.

Wanted To Buy Honey
What have you to offer and at what price?
33Atf ED WILKINSON, Wilton, Wis.
Please mention Bee Journal when writing

Wanted COMB AND EXTRACTED HONEY
State price, kind and quantity, also rate of freight to Boston. BLAKE, SCOTT & LEE,
31 and 33 Commercial Street, BOSTON, MASS.
Please mention Bee Journal when writing.

We have a Large Stock on hand and can ship promptly.

SEND US YOUR ORDERS FOR

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WE MAKE ONLY THE BEST.

Our Falcon Sections and New Process Foundation are ahead of everything, and cost no more than other makes. New Catalog and copy of THE AMERICAN BEE-KEEPER free. Address,

THE W. T. FALCONER MFG. CO.,
JAMESTOWN, N. Y.

☞ W. M. GERRISH, East Notingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.

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SWEET CLOVER

And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white)	60c	$1.00	$2.25	$4.00
Crimson Clover	70c	1.20	2.75	5.00
Alsike Clover	80c	1.50	3.50	6.50
White Clover	90c	1.70	3.75	6.50
Alfalfa Clover	80c	1.40	3.25	6.00

Prices subject to market changes.
Add 25 cents to your order, for cartage, if wanted by freight.

GEORGE W. YORK & CO.
118 Michigan Street, - CHICAGO, ILL.

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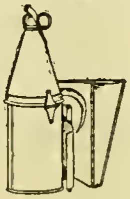

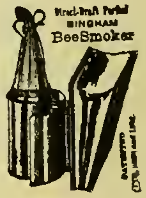

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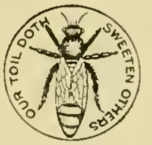
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AMERICAN BEE JOURNAL

OUR TOIL DOTH SWEETEN OTHERS

GEORGE W. YORK,
Editor.

CHICAGO, ILL., OCTOBER 4, 1900.

FORTIETH YEAR.
No. 40.

WEEKLY

Part of Harry Lathrop's Out-Apiary, in Green Co., Wis.

F.B. WHITE CO. CHI.

THE AMERICAN BEE JOURNAL.

PUBLISHT WEEKLY BY
GEORGE W. YORK & CO.
118 Michigan St., Chicago, Ill.

[Entered at the Post-Office at Chicago as Second-Class Mail-Matter.]

IMPORTANT NOTICES:

The Subscription Price of this journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50c a year extra for postage. Sample copy free.

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Reformed Spelling.—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England: — Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

The Weekly Budget

MR. J. T. CALVERT, of the A. I. Root Co., called on us last week when in Chicago on business. He had just returned from his European trip, and lookt as if he was enjoying the best of health.

* * * *

MR. J. B. JUDD, of Cass Co., N. D., made us a very pleasant call last week when on his way, with Mrs. Judd, to visit Boston and other places in the East. After that they will go to California and spend the winter on the Pacific Coast. Mr. Judd is only 78 years old, and as lively as a boy. He was a bee-keeper off and on for years beginning about 1860, and has kept bees continuously the past few years.

* * * *

MR. CHAS. ALBERTS, of Dane Co., Wis., wrote as follows, Sept. 15:

"I consider the American Bee Journal one of the right things in the right place. There are some 25 bee-keepers in this vicinity, and one of them has kept bees for 25 years, and sometimes over 100 colonies, and never subscribed for a bee-paper. I think none of the others have, either, for I talk with nearly all of them, and find that with my five-years' experience and the Bee Journal I have done much better than the average. One man who has kept bees for 16 years complimented me at the last Farmers' Institute by saying that my exhibit of honey there was the best he ever saw."

MISS ELLA WOODCOCK, of Cook Co., Ill., sends us the following item which first appeared in the London (England) Chronicle:

BATTLE OF BEES AND WASPS.

A resident in the Colney Hatch-lane possest a hive of bees. One day they were besieged by a large swarm of wasps. A battle raged between the rival armies for a couple of days, with the result that the wasps are now in possession of the hive. The dead bodies of hundreds of bees killed during the encounter now lie around the hive.

* * * *

EDITOR HUTCHINSON, of the Bee-Keepers' Review, said in his September issue that he was about to move into his new house, which is on a small lot with streets on three sides of it, so that he would be compelled to give up the keeping of bees.

We are glad to know that Mr. Hutchinson and his family are to have a new home, as it shows a degree of prosperity that is well deserved. Some day, in the by-and-by, we hope to make a similar "move." It is likely a far-away day, tho.

AS OTHERS SEE US.—Some of our esteemed contemporaries have our thanks for kind notices referring to the American Bee Journal. Here are a few:

"A great change in the appearance of the American Bee Journal has been made by Mr. York. A new heading, very tastily designed, graces the first page; and instead of reading-matter a half-tone of Mr. Eugene Secor fills the rest of the space. It seems there will be no more reading on the first page, but a picture of some prominent bee-keeper. Some might think the change would effect a saving; but the expense of the cut is fully equal to that of the reading-matter. The idea is an excellent one. The issue for this week gives a half-tone of E. R. Root."—Gleanings in Bee-Culture.

"The 'old reliable' American Bee Journal comes to us with a new face, the cover being artistically designed and printed on a highly calendered paper."—Canadian Bee Journal.

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ABSOLUTELY PURE BEES' HONEY,
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40th YEAR. CHICAGO, ILL., OCTOBER 4, 1900. No. 40.

❊ Editorial Comments. ❊

Cash vs. Commission Honey Sales.—Messrs. Aikin and Doolittle are not of one mind on this topic, as shown in the Progressive Bee-Keeper. Mr. Aikin is quite positive that the commission business is neither necessary nor right. He says, "How many have turned over to somebody else all their honey crop to sell when that crop represented their living, and in the end got nothing for it?" Mr. Doolittle replies that in 23 years' experience he has been trying to sell for cash, but has sold only 100 pounds to distant parties, because he could get cash only on the *arrival* of the honey. He was not willing to sell in that way, because formerly he did just that thing, and could not get a cent of pay for what had "arrived at the store in the distant city in *good order*." He says:

> "And when it comes to shipping my honey to commission men, or shipping for 'pay on arrival,' I will take the commission man every time, for it is a criminal affair for *him* to 'run off with *my honey*,' while it is no such thing if he runs off with the cash for which he *bought* my honey, or rather agreed to pay me."

The moral of all this is, that neither cash buyers nor commission men have a monopoly of honesty, and probably neither of them are composed mainly of scoundrels, and the policy of the producer of honey who sends honey to a distant market is to inform himself thoroly, and whether he sells for cash or on commission to deal only with honest men.

A Story from Bee County, Tex., is going the rounds of the press, several of our subscribers having sent it to us. It says that some of the bees down there will work only on a certain kind of flower, "each hive, or cluster of hives, always drawing its sweets from some particular flower, and religiously shunning the others." Now, aren't those wonderful bees?

Then it goes on to say that they have "bee-trackers" there; that these are native Mexicans "who mount a broncho, ride over to a row of hives, wait until a big, healthy-looking bee emerges, and, when it flies away on its daily quest, gallop along in its wake, to see from just what kind of flowers it gathers, so as to help the bee-keeper decide how much honey of a certain flavor he is going to have!"

This whole fool story is credited to the New Orleans Times-Democrat.

Getting Unfinisht Sections Cleaned Out is one of the things that comes up about this time of the year. Some think it well to leave them without cleaning out, unless it be to extract the honey from them, while a large number insist that they should be lickt out dry by the bees, lest the remaining honey should granulate or sour so as to affect the honey put in them the following season. Whether to expose fully a large lot in the open air, or to take the slower, and what is in some cases the safer, plan, and allow access to only one bee at a time, is a question upon which there may be difference of opinion. The following Stray Straw from Gleanings in Bee-Culture may throw some light on the subject:

> G. M. Doolittle says, in the Progressive Bee-Keeper, that he had tried the plan of giving bees free access to a large number of unfinisht sections to clean up last fall, and the bees tore the combs so much that one-fourth of them were spoilt for baits. He calls it "the Dr. Miller plan," but it's the B. Taylor plan. The Miller plan is just the opposite: Allow an entrance to the sections only large enough for one bee at a time to enter, which is very much the better plan when there are only a few sections. When one has a large number of sections to be cleaned, the Taylor plan is away ahead, and I don't understand how it should work so disastrously with Bro. Doolittle.

[A good deal hinges on what Mr. Doolittle means when he speaks of having given access "to a large number of unfinisht sections." I once exposed 10 or 20 poor uneven combs containing honey to the bees just after the honey season, at one of our out-yards, when there were 80 colonies all producing comb honey. I think I never saw a madder lot of bees in all my life. The combs in question were *literally covered* with a lot of bees scrambling and tumbling over each other in mad, hot haste to get a sip at the honey. Thousands of bees were also in the air that couldn't even get a smell, much less a taste, stinging right and left. It was impossible to do any work in the apiary, and it seemed as if our clothes were literally filled with stings. We hastily closed up our work for the day, and went off with our hands in our pockets, with a resolve that we would never try it again. When any one talkt with me about letting bees help themselves to unfinisht sections in a wholesale way, I thought he was next thing to a fool; but I have recently learned that the bees must have unfinisht sections in such numbers so that there will be no scrambing and tumbling over each other to get a taste of sweet. If 500 to 1,000 of them were exposed in the apiary in a shady place, I venture to say that Doolittle would have very little trouble, and I would suggest that he try it at some future time, and report. If, in the case I have just mentioned above, I had given 50 or 100 combs, I do not think we should have had the rampage we did. But this is a kind of business that beginners should let entirely alone, and the question may be raised whether it might not be a somewhat dangerous experiment even for some experts. In any case the first trial of it should be at an out-yard remote from a public highway.—EDITOR.]

Trying to Winter Weak Colonies is a weakness from which few novices in bee-keeping are free. No matter that he is told the chances are largely in favor of the loss of each weak colony in winter after it has lived long enough to consume most of its stores; no matter that he is told that two weaklings united will consume very little more stores than each one separately, the beginner gives assent to all that is said in that direction, but holds still in reserve the thought that as *some* weak colonies do pull thru, *his* will be pretty sure to be of that fortunate number. Time and experience make him change his views, but the experience of others counts for little with him.

There is one argument, however, that may prove effective when others fail. He is likely to hesitate about trying to winter over several weaklings if you tell him in a convincing way that by uniting two weak colonies now he will have more colonies next July than if he keeps them separate, and both live thru the winter and spring. More *colonies*, mind you, for he has not yet reacht that point where he counts more upon the number of bees he has than upon the number of hives that contain bees.

In the cool weather of spring and early summer it takes about all the bees of a weak colony to keep up heat enough for life, without sparing any bees for outside or inside work. The bees cluster somewhat in spherical form, the outside bees forming a blanket to keep the others warm. It is easy to see that if a large cluster needs a blanket of a certain thickness, a small cluster can not be kept warm with a thinner blanket, and so it happens that at a time when a small proportion of the large cluster do the blanketing business the small cluster may be all blanket. This explains why it is that a colony in the spring, able to have only a small surface of brood in one or two combs, is at a standstill till hot weather, while one with bees enough to cover four frames will be increasing right along.

Now suppose in the same apiary four colonies equally weak No. 2 is united with No. 1, and Nos. 3 and 4 are left separate. Now suppose that the loss of bees in No. 1 during winter is just equal to that of both the other two—not a very supposable case, but we suppose it. In the spring, when brood-rearing has fairly started, there will be more brood in No. 1 than in both the others; but suppose the amount is equal, four frames of brood in No. 1, and two frames each in Nos. 3 and 4. The experience of every observing bee-keeper will tell him that for a time No. 1 will be on the increase while the other two will be at a standstill, if indeed they hold their own. So before there is any increase in either of the weaker ones, No. 1 will have six frames of brood. The bee-keeper can now divide No. 1 and have two colonies with three frames of brood each, against the two frames of brood in each of Nos. 3 and 4.

He who is wise will lose no time now in uniting colonies that have only enough bees to cover three or four combs.

Clarifying Beeswax.—An editorial in the American Bee-Keeper reads:

> "An exchange says the secret of getting beeswax of a bright yellow color is to 'allow it to cool slowly.' Our contemporary would increase its prestige with the bee-keeping fraternity by running in a lot of slugs and quads instead of such information (?)."

Now will Editor Hill please tell us why? Is it that the information is of so little value that it is a waste of space, or because there is no bee-keeper who does not already know it?

Errors in Bee-Journals will occur, no matter how much one may try to be careful. In "Pickings" in Gleanings in Bee-Culture—a department conducted by Stenog, the man to whom the A. I. Root Co. are indebted for the large number of errors in language and printing that are *not* allowed to appear in their journal and publisht books—occurs the following:

> A correspondent says: "I set one sweet clover plant to the right of each hive." I supposed all clover plants were equally sweet. What kind of clover was it?

The greater number of the readers of Gleanings will hardly make out what Stenog is driving at, and the few who understand that he is calling attention to the omission of a hyphen may feel just a little puzzled to explain why it is that when one is speaking of a plant of sweet clover he should not call it a "sweet clover plant" just as well as to call it a "sweet-clover plant." Especially will he feel puzzled when he finds the omission of the hyphen endorst by so able an authority as Stenog himself. If Stenog will carefully run his finger over the columns of the same number of Gleanings from which the above item is quoted, he will find, 13 pages farther on, at the northeast corner of page 693, mention made of "a $200 red clover queen." Now if any evil-minded person should send in an inquiry asking, "Are other clover queens yellow, and is this the only clover queen that is red?" he may as well understand at once that no such offensive personalities will be admitted into these columns.

Base is the sin of ingratitude, and when Stenog so unselfishly points out what should be corrected in this journal, the least that can be done is to return the favor by pointing out what might be bettered in the very excellent journal over which he keeps watch and ward.

On page 551 of the American Bee Journal J. H. Martin speaks of a new package for a small amount of honey, and Stenog says (Gleanings, page 719):

> In speaking of suitable packages for small amounts of honey, Mr. Martin says he saw one lately that workt like a charm. The containing medium was made of sausage-stuffing, but he thinks this was evidently unfit.

It would not be appropriate to say that one would think it "evidently unfit" to have honey contained in something made of chopt meat, for that is not what Stenog means. Instead of "sausage-stuffing," he means *the thing that holds the stuffing*, or, as Mr. Martin exprest it, "the material that forms the covering for sausages."

When it comes to writing pure and undefiled English, it must be confest, "We are all poor critters."

Bee-Keeping at the Pan-American.—In a private letter from Mr. F. A. Converse, superintendent of live stock, dairy and agricultural exhibits, at the Pan-American Exposition, to be held in Buffalo, N.Y., next year, he has this to say regarding the apiarian exhibit:

> "I may say regarding the bee-exhibit at the Pan American Exposition, things are beginning to assume a tangible shape, and already several exhibits from the various States are being taken up, and the outlook is that the bee-exhibit will be one of the prominent features of the Exposition. Separate space has been set aside in the main Agricultural Building for this display, and it will be fitted with every accommodation possible to have this industry represented in a way that shall be commensurate with its importance."

Bee-keepers had the pleasure of meeting Mr. Converse at the recent Chicago convention, and everybody can feel assured that he will do all in his power to make the bee-keeping part of the Pan-American one of the most interesting and helpful exhibits in the whole aggregation.

"**The Hum of the Bees** in the Apple-Tree Bloom" is the name of the finest bee-keeper's song—words by Hon. Eugene Secor and music by Dr. C. C. Miller. This is thought by some to be the best bee-song yet written by Mr. Secor and Dr. Miller. It is, indeed, a "hummer." We can furnish a single copy of it postpaid, for 10 cents, or 3 copies for 25 cents. Or, we will mail a half-dozen copies of it for sending us *one new* yearly subscription to the American Bee Journal at $1.00.

The Chicago Convention Picture is a fine one. It is nearly 8x10 inches in size, mounted on heavy cardboard 10x12 inches. It is, we believe, the largest group of bee-keepers ever taken in one picture. It is sent, postpaid, for 75 cents; or we can send the American Bee Journal one year and the picture—both for $1.60. It would be a nice picture to frame. We have not counted them, but think there are nearly 200 bee-keepers shown.

The Premiums offered this week are well worth working for. Look at them.

Contributed Articles.

A Wisconsin Bee-Keeper and His Apiaries.

I SEND herewith a view of a part of my Monroe apiary, and also one of the larger yard at Browntown, the next station on the railroad 8 miles west. In reference to my bee-keeping, I will say I became interested in bees while working for the railroad company as agent at Prairie du Sac, Wis., about 18 years ago. It was from the veteran bee-keeper, J. J. Ochsner, that I purchast my first colony of bees. Like the Ochsners, my business has been principally the production of comb honey, but always producing more or less extracted along with it.

Soon after making my beginning in bee-keeping, we removed to Browntown, Green Co. There were only a few colonies of bees on the field, all of which I purchast, as the owners took but little interest in them. But after several years had elapst, and I had succeeded in building up a good paying apiary, then a number of people on the field discovered that bee-keeping was just the business they wanted, and, as a result, I have had to contend with an overstockt locality; but I have this much to claim, I never started an apiary on another's field, and don't think I ever will. It is unnecessary. If I can't buy out the occupant, there are unoccupied fields.

After pursuing the business at Browntown for 12 years, I purchast a block of land in the residence portion of the county seat of Green county, on which I built a family residence. I bought out the only apiary then in the city, one that had been establisht for 25 years, thus making this my headquarters. We have at this time something over 200 colonies, the greater part of which are at Browntown. We use the 8-frame dovetailed and the 8-frame Grimm-Langstroth hives, and practice tiering up for extracted honey, and the Heddon method of hiving swarms. All queens are clipt at the beginning of each season. Our percentage of colonies workt for comb honey that cast swarms are low; this year, with a fair crop from white clover, only 25 to 30 percent. Colonies workt for extracted honey rarely cast swarms; there was not a single one in the Browntown yard this season, and only one here.

I wish to say a word or two about our county here in Southern Wisconsin. We hear lots of bragging about California and other places said to be much more desirable, but I have known a number of people to leave this locality for California, and, after a few months, come back disgusted with the dry, dusty counties they had gone to. Our country is fair for bees; there may be other places better, but certainly there are many worse. But in all that goes to make up a truly fruitful country, this excels. By this, I mean, a country that produces in great abundance corn, rye, oats, potatoes, vegetables, fruit, honey, and especially milk, butter and cheese. Truly it is a land flowing with milk and honey, and it is not subject to failures. We always have some paying crops if others are short. I love my native State of Wisconsin; I love her hills and valleys, her streams and lakes of clear water, and I love her people. They are a healthy, industrious class of people, for our climate tends to produce such a type.

In regard to the honey sources of my immediate field I will say: This is a natural white clover country, and this, supplemented by more or less alsike, we consider our main source. Basswood, which is not nearly so plentiful as formerly, occasionally gives us a crop, but it is an uncertain yielder. This season, with a good prospect in view, we had only 3 or 4 days of a flow from it. Heavy storms followed by hot, sultry days cut it short. Outside of these we sometimes get nice crops of light amber fall honey along the creek bottoms, from heartsease and various yellow flowers. Willows, dandelions and fruit-bloom in spring make it almost unnecessary ever to feed.

Wisconsin bee-keepers are just foolish enough to believe that our white clover and basswood honey is not excelled in quality by honey that is produced beyond the Mississippi, or in any other country. The proof of the pudding is in the eating. I just got an order for a shipment of comb honey to go to Nebraska, the purchaser saying he could buy honey out there at 1½ to 4 cents per pound cheaper; but it didn't have the Wisconsin flavor.

But after all I have said, I want all other people to think just as much of their part of the country and its advantages as I do of mine.

It is unnecessary for me to inform the Bee Journal man that the "old reliable" American Bee Journal "stands in" with Wisconsin bee-keepers; his subscription list shows that, as I discovered on my travels among the people. Long may it continue to be the practical, helpful paper it is; and long may its editor have life and strength to work for the best interests of bee-keepers as few men have workt.

Green Co., Wis. HARRY LATHROP.

Letter No. 2 From Mr. C. P. Dadant, Now in France.

NYON, FRANCE, Aug. 27, 1900.

DEAR MR. YORK:—After having visited the home of my childhood, I left for the south with the intention of stopping on my way in the village that my grandfather inhabited years ago. He was a country doctor, and his children and grandchildren used to gather at his home during vacation every summer. This was 40 years ago. But he has since died, and the old uncle, his brother-in-law, who was mayor of the village, has also died; the old mansion has been sold to a villager, who transformed the fine fruit and flower garden, and the terraces, into vegetable gardens and potato patches, so that all the romance has disappeared, especially as the house has not been kept up, and is in a greatly dilapidated condition. But I roamed about the village, made my name known, and we were soon at home among a dozen families who claimed intimate acquaintance, and in some cases remote relationship, with our family.

We remained but two days, but I had occasion to ascertain that here also the only progressive bee-culture to be found is in the hands of the school-teacher, who devotes his spare hours to a small apiary of movable-frame hives.

A short trip to the forest on top of the neighboring mountain, convinced me that the flora of the country is much richer than that of Illinois, during the months of July and August, for there are hundreds of different wild blossoms visited by the bees during those months. The climate is neither so hot nor so dry as ours, and everything keeps green usually during the warmest weather. In many regards things remind me of northern Wisconsin, but they have an early spring and a milder winter.

We then proceeded to Macon by way of Dijon, along the

A Corner in Mr. Lathrop's Home Bee-Yard, in Green Co., Wis.

shores of the Saone River, among some of the finest scenery I ever saw, for the shores of the Saone look like an endless village, dotted with villas and castles of ancient date, among an uninterrupted line of vineyards.

At Macon, Mr. Maigre awaited us at the station. I had never met this gentleman, but had had a great deal of correspondence with him, and we both soon felt at home in his family. He is an extensive bee-keeper, and manufactures bee-supplies on a small scale. He has four out-apiaries in Beaujolais, across the river Saone; and the trip was taken in his *automobile*—the first one on which I ever rode. Automobiles are becoming very plentiful in France, and no wonder, they have such fine roads.

It is difficult for an American, who has never visited Europe, to picture to himself the roads of Europe. A few words will suffice to express the difference between their roads and ours. The poorest of their roads are better than the best of our macadamized streets. The average European road is an avenue with a solid smooth bed, high in the middle, with a row of trees on either side, and a drain just outside of the row of trees. In the wettest weather, you can walk, or ride a bicycle, without finding more than a little thin mud that will hardly dampen the tire of the wheel.

Beaujolais is a fine honey-producing district, having alfalfa, sainfoin, basswood in the early summer, and any amount of buckwheat during the later months. Maigre's apiaries are scattered among vineyards, plum and pear orchards, and around and about houses in close proximity to the road. I should be afraid of the bees stinging people and horses, but it is very evident that they become accustomed to the bustle of busy thorofares, for I have nowhere seen quieter bees.

The practical bee-keepers in France all use the extractor, for it appears that extracted honey brings as high a price as comb honey. This is the result of the ancient custom of pressing the honey out of the comb before eating it. As a matter of course, they find the honey that has been extracted far superior to the old strained honey. In Mr. Maigre's apiaries I saw two small improvements that I think are very good. The one is a wire-netting shield around the fire-box of the smoker, which effectually prevents one's burning his fingers, as this shield permits a free passage of air, and is always cool. They use a copy of the Bingham smoker nearly exclusively with this improvement. The other implement is a long brush for brushing bees off the combs. These brushes are thin and strong, with very long bristles, and are superior to anything we have.

A thing which strikes us Americans as very odd, is the numerous different articles employed to make bee-hives, owing to the high price of lumber. I saw hives made of straw, of wood and straw, of earth, of willow wood covered with mortar, of cement, and, in a few cases, of reeds and rushes. Straw roofs are plentiful, but they use also tiles and wooden roofs. But in no case is the workmanship equal to what is made in the United States. They make section-boxes that no one in the United States would buy—they are too rough and dark. I am told that the white basswood is very scarce in France, and they have to fall back on much darker lumber. The best of their pine comes from Sweden and Norway.

I have been kept so busy visiting that this letter, begun at Nyon, is finisht at Paris. I will write you again soon, and describe my trip in Switzerland. C. P. DADANT.

Natural-Built Combs vs. Foundation.

BY B. A. HODSELL.

In reply to Mr. S. A. Deacon's articles in the numbers of the American Bee Journal for Aug. 16 and 23, I would say that, if he were talking to C. P. Dadant or other practical bee-keepers only, I would not say a word, but believing that his long article will mislead and greatly damage hundreds of beginners, I feel it my duty as one of the largest bee-keepers of the Southwest to reply.

I have about 700 pounds of wax made into foundation on the halves, annually, using every pound of my half in full sheets, mostly in the brood-chamber the first year, therefore securing all worker-comb in the brood-chamber.

To illustrate the advantage of foundation over natural-built combs, last spring in one of my out-apiaries which I had run in that way for years, and had weeded out the natural-built drone-comb in my first extracting, I found only a handful of drone-brood in the super, and 12 cases of 120 pounds each of extracted honey.

In another out-apiary of equal number, and equally well filled, about one-half foundation combs were in the super, much of the rest being natural-built drone-comb. After extracting the honey I uncapt and jarred out the drone-brood, securing about a bushel of drone bees, and only eight cases of honey—a direct loss of four cases, or $30, in the one extracting, because I allowed the bees to use natural-built combs instead of foundation.

I allowed the young swarms to be hived on the halves this year, using full sheets of foundation for my 20, and obtained about 26 pounds of surplus honey to each hive, worth $30. The renter used no foundation, got plenty of crooked combs, and no surplus.

I never saw any irregularity or breaking down of foundation, as Mr. Deacon would have us believe, or changed into drone-comb, but always as nicely completed as stampt.

We do know by experience that if allowed to build the combs themselves, a large proportion of worthless drone-comb will be found in the brood-chamber and supers, which must be melted up and run into foundation, or the result will be as I have just stated. I have no bees, queens, beeswax, or foundation, to sell, but use all the full sheets of foundation I can get, and expect to continue until I work out all the natural-built drone-combs except a few patches in my best breeding colonies.

Mr. Deacon says the old bee-keepers don't use as much foundation as formerly. Perhaps not since they have their natural-built drone-combs melted up and replaced in the form of foundation. If I ever get that far along I will also sell my wax, but when I get thru my 11 apiaries I will continue to patronize the foundation-mill.

Maricopa Co., Ariz.

Convention Proceedings.

Report of the Proceedings of the 31st Annual Convention of the National Bee-Keepers' Association, held at Chicago, Ill., Aug. 28, 29 and 30, 1900.

BY DR. A. B. MASON, SEC.

(Continued from page 614.)

SECOND DAY—FORENOON SESSION.

The forenoon session of the second day, Aug. 29, was called to order by Pres. Root, when little Miss Ethel Acklin played and sang the bee-keeper's song, "The Hum of the Bees in the Apple-Tree Bloom," after which the Rev. E. T. Abbott offered prayer.

Pres. E. R. Root, of Ohio, then delivered the following

PRESIDENT'S ANNUAL ADDRESS.

I should prefer to omit this part of the program altogether; but as the president's address has been a conspicuous and important feature in the conventions of this Association in the past, it is, perhaps, proper that a precedent should not be started now. It is hardly proper, tho, that I should take up much time in view of the part I take in the stereopticon work later on, and I will, therefore, be very brief.

INCREASE IN BROOD DISEASES.

This convention should consider the increase of both foul and black brood thruout the country. That both diseases are certainly making advancement in certain sections of the country can scarcely be denied. A few years ago, if I received at our office more than one sample of diseased brood a month it was considered as something somewhat remarkable; but now specimens of brood are sent in almost daily. Black brood, which I regard as more insidious, and the more to be dreaded of the two diseases, is thought to travel thru the air; that is to say, many of the bee-keepers who are in the vicinity of its ravages believe that the germs of this dread disease float from one locality to another. I am inclined to doubt it; but, in the face of the facts, we are compelled to admit that it travels much more rapidly than foul brood. This convention should pass suitable resolutions, calling attention to the seriousness of the situation, and ask State and National governments, where they have not already done so, to pass such legislation as will afford the necessary relief.

Indorsement should be made of the splendid work done by the inspectors of Wisconsin and New York; and in the last-named, especially the Commissioner of Agriculture, should receive the thanks of this Association for the interest he has taken in the matter of the suppression of black brood thru the Empire State. This commissioner has not only helpt in every way possible, but has placed on the pay of the State some four inspectors, bee-keepers, each of whom has a series of counties in which it is his duty to make frequent and careful inspections of all apiaries within his jurisdiction. The prompt and energetic measures undertaken by the State of New York should be recognized by bee-keepers in every State in the Union; for without such prompt action bee-keeping might be almost entirely wiped out of some important sections of other States, as it is already in some localities in New York.

A vote of thanks should also be tendered to Dr. W. R. Howard, Bacteriologist at the University of Fort Worth, Texas, who has performed a service for bee-keepers in his investigations of black brood and pickled brood, with very little show of remuneration. Such services, if paid for either by any individual State, or by the general government, would cost hundreds of dollars.

HONEY ADULTERATION IN THE CITIES.

I am glad to believe that adulteration, one of the greatest evils with which we have to contend, is not on the increase; indeed, it has been most decidedly checkt (thanks to this organization) in some of our large centers of population; but there is a broad field for work, and this convention should not only hold up the hands of the general manager in the work he has already begun, but should consider plans by which the evil may be further curtailed.

BEES FOR BUSINESS.

This Association should go on record as indorsing the efforts made by queen-breeders to develop a strain of bees that can work on red clover. Too much attention has been given to the breeding of handsome bees—bees for color. The matter of breeding for longer tongues, and the securing of shorter corolla-tubes in red clover, will come up later in the sessions of this convention.

SPRAYING DURING FRUIT-BLOOM.

From all sections of the country we hear complaints of bees and brood being poisoned during spraying time. Ignorant and vicious fruit-growers in many localities, sometimes in spite of legislation, persist in administering the poisonous mixtures during the time that the trees are in full bloom. It has been shown repeatedly by experiment stations and by private individuals that spraying during blooming time is both a waste of material and a great damage to a very important industry—bee-keeping. This convention should pass certain resolutions praying State legislatures to enact such legislation, where there are no anti-spraying laws, as will bring the needed relief to bee-keepers. The general manager of this Association has already done some good work, especially in the preparation of certain pamphlets on this question of spraying, designed for free distribution by the members of this organization.

RETAILING EXTRACTED HONEY.

Some recommendation should go forth from this Association to the bee-keepers of the country, urging the importance of the development of the home markets for extracted honey. Too much of the liquid article is being rusht to the cities, where it is adulterated, and palmed off on the unsuspecting public. A number of prominent producers are now bottling their own product, and putting it out on the markets of their own vicinities, under their own name and guarantee. The fact has been demonstrated over and over again, that the general public will pay a good round price providing it can be assured that the honey it is buying is pure bees' honey, and that the bee-keeper or person putting it out is reliable and honest.

BEES A NUISANCE.

In various sections of the country bees have been declared a nuisance. They are being voted out by town councils, and suits are being begun; but in the great majority of cases where the bee-keepers have got into trouble they are not members of this Association. Within the last few days two parties have written for advice as to how to proceed. But neither of them was a member of the National Bee-Keepers' Association. I wrote to both, telling them that they could not expect the Association to defend them, but that I had no doubt if they gave the facts in each case to General Manager Secor, inclosing a membership fee of one dollar, he would advise them how to proceed; but that it must be distinctly understood that, as they were not members before the trouble began, they could not expect financial aid by joining the Association now. Bee-keepers who are already members should use every effort to induce their neighbors and friends who are also in the same business to send in their dollar, and thus be ready for any emergency that may arise, and at the same time help the Association carry on its grand work.

RESOLUTIONS.

Thus far I have outlined work for the committee on resolutions. I do not mean to dictate; but having been before our Ohio State legislature in the interest of certain bills up for passage, I have learned the value of an indorsement by a State or National association. When I tried to interest the members of our Ohio legislature in a foul-brood bill and in an anti-spraying bill, about the first question I was askt was, "Does your State organization ask for them?" When they learned that we had no such organization they manifested very little interest in the measures that I was advocating. The reason of this is not difficult to find. Our legislators are constantly beset by people who have all kinds of hobbies to ride and axes to grind; and as it is impossible to listen to all their claims, our law-makers are compelled to confine their attention to matters that emanate from representative *bodies* of men rather than to the men individually.

Resolutions, suitably drawn, would go a long way in influencing legislators, and even our general government, in matters directly touching our interests; and in this connection it goes without saying, that this organization should lend its indorsement to the Brosius Pure-Food Bill, or some equally good measure that may be brought before our next Congress.

There are many other important matters to which I might refer; but as these will be brought up in one way or another during the sessions of this convention, I forbear.

E. R. ROOT.

On motion of Dr. Mason it was voted that the president's address be referred to a committee consisting of Rev. E. T. Abbott, Hon. Eugene Secor, and Mr. O. L. Hershiser, to consider the suggestions offered, and make such recommendations as they might see proper.

A Member—Are they to be the committee on resolutions?

Dr. Mason—I think it a very good plan to make that a separate committee—they will have enough to do.

Pres. Root—That matter will come up a little later on when we appoint committees.

A Member—Was there a committee appointed last evening?

Pres. Root—Yes, but not on resolutions.

The next thing on the program for this morning is a paper on "Queen-Rearing by the Doolittle Method," by Mrs. H. G. Acklin, of Minnesota, who has had considerable experience in the rearing of queens.

By Mrs. Acklin's request Mr. George W. York, president of the Chicago Bee-Keepers' Association, read her paper, which is as follows:

QUEEN-REARING BY THE DOOLITTLE METHOD.

I do not follow the Doolittle plan exclusively, notwithstanding it has pleased our worthy secretary to assign me this subject. I presume there are as many methods used in rearing queens as there are queen-breeders. Individuality is sure to crop out, in the minor points at least, in every undertaking in life. Nevertheless, I think Mr. Doolittle is a real benefactor to bee-keepers, and especially so to the queen-rearing element, and that he should receive our life-long homage. I believe he has been perfectly unselfish in giving his experience to the world, and just imagine what a vast amount of planning and tinkering he has saved the lesser lights.

I speak for myself now, as we are so crusht with work during the queen-rearing period that it would be practically impossible for me to evolve for myself, without any pointers or suggestions, a plan which would be altogether satisfactory. If I mistake not, Mr. Doolittle is the pioneer in the cell-cup method.

No one can rear good queens unless great care and untiring vigilance is practiced in the selection of queens to

Little Miss Ethel Acklin with Queen-Cell Frame.

breed from. There are so many qualities to be considered—gentleness. prolificness, good honey-gathering, color, and so on to the end of the chapter. One hardly knows what a queen is until it is time to supersede her; unless, indeed, you get hold of a queen like one we bought last summer for breeding purposes, and had to ship her to an out-apiary so we could step out of the back door, and the poor kittens could have a chance to live in the back yard. Do you wonder that I put gentleness first in the list of good qualities?

But, "honor bright," as we used to say at school, I believe that gentleness can be combined with all other good qualities without detracting one iota from any of them.

Living, as we do, on the corner of a busy street in a large city, and having our bees just a step from the back door, we would naturally breed for gentleness for our own convenience. But I know that we do not eliminate other good qualities, as our queens fill every available place in the brood-nest with eggs, and the last honey-year we had we took off something over 100 pounds to the colony, spring count. We have very few swarms if plenty of room is given the bees at the proper time.

But to return: Most of our queen-rearing nuclei are at home, and that fact affords us the opportunity of selecting the best queens from the out-yards for the home yard, and also of taking away any undesirable ones. We frequently make changes of this kind.

The matter of drones, as you all know, is another very important factor in the rearing of good queens. A neighbor bee-keeper has a queen which produces most beautiful drones, and we have secured several combs of them from him this season. We like to get good drones from another apiary, as it makes a direct cross.

In looking over the bee-papers one reads a multiplicity of ways of starting queen-cells, all of which may be good. We use the cell-cup plan—the details of which you are all familiar with—and start the cups at intervals of two days. That gives time to get one lot put away before the next lot is ready. I use very young larvæ, and expect the queens to hatch the 12th or 13th day after the larvæ are transferred. I also use royal jelly, as that seems the surest way. I plan to look over the nuclei, to see if the queens are out the 14th day; as, if I go over them the 13th, I am just about sure to find one or two which are not out. I take the cells from the colony in which they are built the 10th or 11th day.

We use the 10-frame hive with a movable bee-proof partition-board in the center, which gives room for a 4-frame nucleus and division-board on each side. This plan has the double advantage of saving room and hives, and also of being able to throw the two nuclei together when one queen or nucleus is sold in the early spring. A cover is necessary directly over the frames, which may be of either canvas or enameled cloth. For the winter covering we have a different arrangement.

It may sound strange to many of you when I speak of saving room; but as we are not fortunate enough to live on a large farm, such as our worthy general manager so feelingly describes in his song, it behooves us to economize space whenever practicable.

Believing, with one of our talented editors, that the mission of a paper is to start discussion on a subject, not exhaust it, I will close. Mrs. H. G. Acklin.

Pres. Root—You have heard this paper; it is now open for discussion.

R. L. Taylor—The writer says she has very little swarming; I would like to inquire whether she produces comb honey or extracted?

Mrs. Acklin—Mostly extracted honey.

Pres. Root—This is a very interesting paper, and as most of you are probably honey-producers, you ought to be interested in this subject of queen-rearing. I believe every one should try to rear the bulk of his own queens. I can't help feeling that many queens shipt thru the mail suffer somewhat from the jolting and jarring they get.

C. A. Hatch—I think the point of selecting drones one that is well taken. In my own management of apiaries I find that I can materially change the character of a whole apiary by giving attention to the drones alone. It is a well known fact by all breeders of stock that the progeny rests more with the male than with the female, and I think queen-breeders heretofore have been inclined to lay too much stress on the influence of the queen, and ignore the male side of the progeny.

Mr. Abbott—Excuse me, I want to offer some objections to the president's statement about shipping queens. The best "queen" that I have was reared for me in New York. Her mother took care of her until she was about 21; I think she did a better job than I could! I don't believe in everybody rearing his own queens; I can get better queens reared than I can rear myself. If you know how, it is best to do it yourself; if you don't, it is best to let the other fellow do it.

Dr. Mason—It seems to be exceedingly and uncomfortably warm here for some of us boys; as the ladies are allowed to wear shirt-waists, I suggest that those of us who would like to do the same thing, just do it [taking off his coat]. I want to say another thing: Every member of this Association that has paid his dollar, whether to Mr. Secor or to myself, is entitled to one of these badges free, and I am going to suggest that no one be allowed to say a word until he has a badge on.

Pres. Root—That would be hard on a good many of us here; how are you going to know when they take off their coats, that they haven't any badge?

Mr. York—I would suggest that we have an intermission so that people can come forward and get badges; perhaps it is not their fault that they haven't them.

Pres. Root—We will have such an intermission now for about five or ten minutes, when we will take up this discussion again.

[Continued next week.]

York's Honey Calendar for 1900 is a 16-page pamphlet especially gotten up to create a demand for honey among should-be consumers. The forepart was written by Dr. C. C. Miller, and is devoted to general information concerning honey. The latter part consists of recipes for use in cooking and as a medicine. It will be found to be a very effective helper in working up a home market for honey. We furnish them, postpaid, at these prices: A sample free; 25 copies for 30 cents; 50 for 50 cents; 100 for 90 cents; 250 for $2.00; 500 for $3.50. For 25 cents extra we will print your name and address on the front page, when ordering 100 or more copies at these prices.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Feed for Winter Stores.

If a colony requires 10 pounds more feed than it has to winter on, and we feed granulated sugar, equal parts by weight, should we take 5 or 10 pounds of sugar to make up the necessary 10 pounds weight? or will 10 pounds of sugar go as far as 10 pounds of honey, when mixt as above, sugar mixt with water? NEW YORK.

ANSWER.—Ten pounds of sugar goes farther than 10 pounds of honey. About 5 pounds of sugar to 2 pounds of water is considered a feed equal in strength to honey, so if your bees need 10 pounds of feed that is to be half-and-half, they should have about 7 pounds of sugar and the same of water. But it will not do to feed so much water late in the season. The bees will not have time to evaporate it, and a thicker feed will be better.

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A Beginner's Questions.

I suppose you must grow tired of beginner's questions, as the things they ask about are so old and stale to you. I never ask what I can gain from the bee-books; but the trouble is they describe things in such a way that we can't grasp the idea. Besides, there are some things we can't learn from the books, and here I come again to ask you:

1. From the best information you have, what would be the best honey-plant (flowers, shrubs) I could plant for the benefit of my bees next year in my two-acre orchard lot fenced to itself, and set out in all the different kinds of orchard fruits, supposing such plants to be planted among the fruit-trees?

2. Why do bees fill up when smoked or disturbed? I know they do it, but *why* do they do it? and do they retain it permanently?

3. What could cause some of my bees (just a few, say a pint) to swarm out and cluster on a nearby bush? I have had two different occasions of this kind lately. If the entire swarm had came out I would better understand it, but these few came out, clustered, and never pretended to leave, only to change their bush from one to another, and never returned to the mother colony. Last fall I had this same thing to occur Nov. 1, but they left for the woods.

4. If I were to transfer my bees, would it be safe to do so next spring before they begin to gather and store honey? and if I did, would it not be absolutely necessary to feed them until they did begin to store?

5. When would be the best time to move my entire apiary to a distance of 100 or 200 yards, after, or before, I transfer them?

6. Would my orchard be a good locality for them, placing the hives along on the fruit-tree rows? or would their alighting on the fruit-trees in swarming-time cause damage to the trees in having to saw off so many limbs to hive them?

7. Can the Manum swarm-catcher be used successfully enough to prevent sawing off these limbs?

8. Is an orchard generally considered a good locality for an apiary, all these things considered?

9. In using old comb, does it require that the comb should be placed so as to stand as it did in the hive where it was made by the bees? I've heard one could not invert the comb for the reason the bees could not refill it unless it had the same angle (incline) it had at first, that it would not hold the honey. MISSISSIPPI.

ANSWERS.—1. No, I do not weary of beginners' questions, but am always interested in them, unless the question be one that is fully answered in every text-book on bee-culture, and then it is only a waste of space to answer it here. You must not be too hard on the books. It is utterly impracticable for them to answer all questions that may arise. If it were possible for them to do so, there would be no excuse for this department. If they give general principles in such way as not to be misleading, they do well. But they are indispensable, and the man who depends upon a bee-journal without having a text-book is unwise. After carefully studying his text-book, however, he will still have plenty of questions to ask, and the intelligent questions of the beginner are always of interest. It may, however, be no easy matter to answer some of them, as for example your first question. The book that should attempt to give point-blank instructions on such a matter would need to occupy much room, and the instruction that would be all right for one locality might illy fit another. But I will make some attempt to answer.

1. If the prosperity of the orchard is the main thing to be considered, a good plow might be better than any kind of honey-plant. And yet there might be something planted among the trees whose product, together with the nectar gathered therefrom, would more than repay the damage done to the trees of the orchard. Your wise plan would be to consult an experienced orchardist as to the things that might be judiciously planted in an orchard, and then select among them such as would be best for the bees. And his experience should be in Mississippi, not in Massachusetts. Sweet clover or alsike clover would be fine for the bees, but not so good for the trees. One of the best things might be the raspberry. It succeeds well in partial shade, and yields a large amount of nectar, and its presence will do the trees no harm if kept properly cultivated. The different vines, such as cucumbers, squashes and pumpkins are also honey-plants, and would not be very bad for the orchard.

2. I don't know. The supposition is that bees reason something like this, allowing that they reason: "It looks a good bit as tho we were to be turned out of house and home, and if we're to migrate to some other place it's high time we were loading up our knapsacks with provisions to take with us." When the excitement subsides, and they conclude they're not going to move after all, they unload most of the honey they have taken, but no doubt every such disturbance costs at least a little in the way of stores.

3. It might be bees accompanying a superseding queen on her wedding-flight, or a small after-swarm, more likely the latter, which is very freaky with its virgin queen.

4. It might not be unsafe to transfer so early, but the disarrangement of the brood-nest would be more easily overcome at a time the bees were storing. It would not be absolutely necessary to feed unless there was danger of starving, and either to transfer or feed when too cold for bees to fly would be unadvisable. Better transfer in fruit-bloom, or, perhaps still better, wait till they swarm.

5. The transferring need not be considered, but it will be well to move them early; if convenient, just before their cleansing flight in spring.

6. An orchard is one of the very best places to put hives. The trees would trouble little more about swarms alighting on them than if they were near by outside the orchard.

7. Yes, generally.

8. Yes.

9. Practically it makes little difference. The bees are able to straighten up matters.

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No Swarming and a Remarkable Yield.

I would like to inquire the probable reason of bees not swarming. I have 5 colonies but did not get a swarm this season. The colonies were very strong in the spring. I put on supers early, and have taken off 650 pounds of comb honey. Is it more than the usual yield? ILLINOIS.

ANSWER.—It is hard to say with any degree of positiveness just why your bees did not swarm. You say you put on supers early, and the bees thus feeling that there was plenty of room at home were less inclined to look for quarters elsewhere. You say nothing about the size of your hives, and it may be that large hives had something to do with it. It may be, too, that the strain of bees had more to do with it than anything else, for some bees are much less inclined to swarm than others. If you have bees not inclined to swarm, you are much to be congratulated. Your average of 130 pounds per colony is a remarkable one for northern Illinois this year. If your bees had swarmed, the chances are that your crop would have been less.

The American Fruit and Vegetable Journal is just what its name indicates. Tells all about growing fruits and vegetables. It is a fine monthly, at 50 cents a year. We can mail you a free sample copy of it, if you ask for it. We club it with the American Bee Journal—both for $1.10.

The Afterthought.

The "Old Reliable" seen thru New and Unreliable Glasses.

By E. E. HASTY, Richards, Ohio.

THAT BEE-HIVE INCUBATOR—OR HENLESS HATCHER.

"The proof of the pudding is in the eating," no doubt; but even if it eats well we want more than a teaspoonful, else we lose interest in the whole thing. Many of us knew that a few eggs carefully adjusted over a very strong colony of bees could be hatcht, as an experiment; but I imagine that the commercial, business-like, right-straight-along incubating of eggs by bee-heat will come to some of us as a new revelation. Here we have it right before our eyes, and 16 top-story chicks out foraging their way in this queer world, minus hen. And the dark man behind the hive backs it with the assertion that he has been at it all the spring, finds it satisfactory, not unreasonable in its demands for care, and safe enough to trust $5.00 sittings to. And now that old chestnut of a debating-society question about who is the chicken's mother will need readjusting. Which indeed? the queen? or the workers? or the drones? or the cushion? or the Norton? or the combination? Perchance when we try to do the trick we shall smother the prospective chicks for lack of air, else chill them by too much of it. Better find out first what those cushions are stuft with, as therein may lie the whole thing—pure air. without draft and its chills. Page 529.

CAUSES OF SWARMING.

Prof. Cook rather requests criticism, page 530, and he may get all the "no, no!" chorus he wants on his fundamental proposition, "Bees are incited to swarm because of something disturbing their peace." I shall not cry no, however. I rather like the dictum—if you will only take it in a sense sufficiently *broad*. Say the young man goes West because of feelings disturbing his peace; and say the male of the herd jumps over the fence, according to his well-known style, because of feelings disturbing his peace, and then you may proceed to float the proposition in question also. Yes, the disturbance can usually be *more* readily pointed out in the bees' case than in the others. Blessed be disturbance. It moved Budha until he renounced a throne. It moved Paul to preach the gospel. It moved the Christ until he volunteered the cross. But when it comes to the swarming of bees we are a little inclined toward, Blessed be *lack* of disturbance. If we only *could* give them "Something to do, something to love, and something to hope for"—that earthly heaven in a nutshell, without any disturbance thrown in, we should be very glad.

I'll consent to kick right lively against the Professor's notion that bees swarm for lack of honey. Here, alighting upon a certain effect he thinks it a cause. After a colony has swarmed itself nearly to death there is usually very little honey in the hive. Of course there are "famine swarms;" but it does not elucidate matters to jumble them up with normal swarms, which are very different. I'll object also to those words "if ever," more than half way down the last column. If they mean anything they mean to suggest a doubt whether bees ever swarm without long and careful preparation; and I think a leading bee-man should, at this late day, be ashamed to encourage such a doubt as that. It is of decided interest that Prof. Cook's experience is that a swarm when the queen is left behind *usually* clusters. A prevalent impression, at least among non-clippers, is that such a thing is quite rare.

EVAPORATING OR RIPENING HONEY ARTIFICIALLY.

How to evaporate the superfluous water in honey without having the aroma (which is much more volatile than water) also evaporate, well, that, I sadly fear, is an insoluble question. The bees themselves make a partial failure of it; and they will work it much nearer to success than any one else can. Exposing in a shallow pan will certainly let some aroma get away; but what are you going to do? Artificial heat will do worse. And I doubt if the vacuum pan would be any improvement in that respect. Earnest determination not to have thin honey will suppress the most of it. And when one does have it I guess that *long* exposure in a deep storage, letting the water rise and pass off, while part of the aroma remains because down where it can't evaporate, is about the best one can do. But look a little out. Changes in the direction of spoiling may come faster than ripening. The shallow pan in a hot, well ventilated chamber *may* be the best sometimes, notwithstanding loss of aroma. *Who will notice aroma anyhow* in a honey which has begun to be slightly tart, and also begun to have a mean taste, indescribable, but entirely undeniable?

OVERSTOCKING—AN ANTI-SWARM REMEDY.

Deep entrances and selection in breeding will no doubt help to some extent about undesirable swarming; and so in torrid climes (or torrid days in nominally temperate climes) will double covers; yet the suspicion forces itself upon my mind that the real relief of H. L. Jones in Australia is the same as mine here—*overstocking of the location*, that king of anti-swarm remedies. It is quite desirable not to be fooled in such a matter as this. Number of bees may remain stationary if the pasturage is half plowed up. Also the honey supply need not be past if the pollen supply is over-reacht. Page 536.

AN EXTRA-EARLY FALL FASHION.

And it's a new dress Miss Journie has, is it, and all to make her look young? Faith, and does she think she can hide the fact that she's comin' forty by a new dress? And wasn't the ould dress as becomin' as any in town, sure? Why need she be worritin' the other girls and their sponsors by her extra-early fall fashions?

Don't you know I'm really queer on the subject of such changes in the papers I read. (I don't know whether any one else is affected that way or not.) It almost always takes me awhile to get reconciled to the change so as to like it even as well as the old style. Eventually I wonder at myself, and wouldn't go back for anything.

BEES AND BOYS.

Bee-keeping for boys, to keep them on the farm, page 548. Well, it may work sometimes; but usually when a boy is old enough to keep bees his heart has already gone to the city, or somewhere off the farm, and the remedy would come too late. 'Spects it would work better if begun a good deal earlier. At the place I call home are two boys that call me "Uncle Em." One is five and the other seven. Without any initiative of mine they long ago prest me to the promise that I would give them some bees when they got old enough. Two colonies to each it was to be. They sagely consider that two colonies would be very much nicer than one. This anticipation looks very big on their horizon; and they talk of it a great deal. *They don't throw dirt and clubs at the entrances of my hives now*, at least not exactly as they used to do. But they often run needless risks of being stung on purpose to get themselves inured to stings; and a sting seldom swells much on them now. They catch bees in hollyhocks, and hive them in fruit-cans—or did till no more fruit-cans for breakage could be obtained of mamma. It strikes me that we have here a pointer as to how to make a bee-keeper if desirable to make one.

IMPRISONMENT OF NUCLEI.

Anent the Somerford plan of nuclei I guess the damage from imprisonment of the bees is less than it would be from the desertions which elsewise occur; also that making exit *difficult* is better than making it impossible. But don't forget to see that they have plenty of water poured into empty comb. Page 548.

A MIGHTY BUMP OF FAITH.

My, how Rambler's bump of faith is developing! He sees a coming uncapping-machine that will uncap eight combs a minute (whole apiary in an hour), and a self-puffing smoker that will let the bee-man use both hands for something else! Page 551.

"LOST SWARMS."

On Wm. M. Whitney's problem, page 555, I'll guess the swarm went without clustering because they had been out several times before, and came back unseen—last time only the day before. A little later in point of time a wandering swarm of small size entered the same hive—because it was exhaling odor, and too much in a disturbance to fight. Having now a queen that could fly (and plenty of practice), the rest was easy as rolling off a log. In the common case of swarm intrusion which lasts only over night, both queens *usually* survive, I believe.

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How many Votes will he Get ?

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FARM, FIELD AND FIRESIDE,
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Root's Column

What They Say of

—THE—

ABC of Bee-Culture

We have just received the latest edition of this manual of apiculture, publisht by the celebrated house of The A. I. Root Co., and, after having gone over it attentively, we do not fear to affirm that it is the most learned treatise that has ever been publisht on bees and their culture.

This work was written for American novices, but it will be none the less profitable to skillful practitioners who will find mentioned therein al the discoveries and progress in modern apiculture. Its title, "A B C of Bee-Culture," is too modest; it deserves, rather, to be called an encyclopedia of bee-culture. This work is, in fact, a veritable magazine where all questions relative to apicultural science are explained with the greatest thoroness. The subjects in it are arranged in alphabetical order, with numerous engravings. finely executed, which aid to a proper understanding of the text.

Since the first edition. publisht in 1877, 67,000 copies have been sold. This unprecedented success indicates sufficiently the value of the work, which, in every respect, is a perfect one. The typography, the illustrations, the paper, the binding, leave nothing to be desired. Let no one believe here that we make an idle boast. The humble praise we have accorded this work is based on its real merit, to which the masters of apicultural science have already rendered the most flattering testimonies.

The well-known editor of Gleanings in Bee-Culture, one of the bee-journals the most widely known, is better situated than anybody else to follow the progress of modern apiculture. Not only is Mr. E. R. Root in correspondence with the leading lights in modern apiculture, but he is at the head of the most extensive apicultural establishment that exists. Not only has he gathered together the experiences of the most celebrated bee-keepers during the past 22 years, but, before accepting them and putting them in his book, he has carefully tested them all, and has experimented with all in his own apiary; hence one should look in this book for the most recent conclusions in movable-frame apiculture. It is there, also, that one will find the best systems. Nowhere, it is well known, has the development of apiculture been so great as in North America. The Americans, eminently industrious and practical, have made bee-keeping a special source of revenue. It is, consequently, of great interest to study their methods, the best of which are explained in the A B C of Bee-Culture, and which will, we believe, extend the horizon of all beginners who have entered the apicultural field with the object of making it a means of livelihood. We do not know how to urge those of our readers any more strongly, if they understand English, to get this book. We hope to see it publisht in French. We are satisfied that it would have in France, as well as in America, a considerable success.

L. P. Prieur.

Revue Eclectique, Sainte Soline, par Lezay, Deux Sevres, France, February, 1900.

While the book has been enlarged, and hundreds of pages have been rewritten and revised, the price will be the same as before: $1.20 postpaid, or $1.00 by express or freight with other goods; or when sent with our journal, Gleanings in Bee-Culture, which is a constant appendix to the A B C book, a journal beautifully printed and illustrated, 42 pages, for the very low price of $1.75 for the two. For quantity of up-to-date bee-literature there is nothing else offered at this low price.

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GENERAL ITEMS

Season's Report—Dog Stung by Bees

The honey crop in this section is short about one-half. I have 4 apiaries, two located near large fields of sweet clover, and I secured 5,000 pounds from those two with 150 colonies of bees. The other two consisted of about 125 colonies, and depended principally on basswood for a surplus. I secured from these latter two only 2,500 pounds.

While extracting about the first of June, a mad dog came into the apiary; the bees were pretty cross, so I had a little fun. I have heard it said that a mad dog will not halloo or complain from any sort of punishment, but that one did. I did not think about the dog being mad at the time. I thought it strange that he should lie down and snap at the bees as he did. I have seen several dogs stung, but they would run off as soon as the first bees stung them. I could have killed this one easily, but supposed it belonged to some negroes near the apiary. A few hours afterward, some negroes killed him, and came to the apiary and told me about his being mad. I concluded then that anything a lot of angry bees could not run, did not have much life in it.

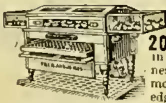
J. M. Cutts.

Montgomery Co., Ala., Sept. 22.

Cushions for Bee-hive Incubators.

What material does Mr. Norton use to stuff the cushion in his bee-hive incubator? Also, what is the advantage of chaff hives in this (Texas) climate, as incubators? I am satisfied Mr.

YOU OUGHT TO KNOW



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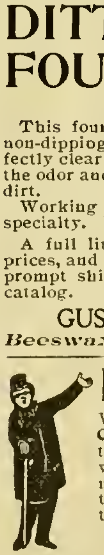

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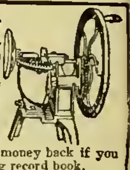

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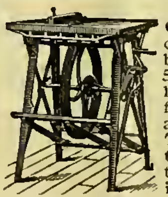

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Norton is right, and glad of it, as I have been working on the same thing at odd times since 1898, on the till or drawer system. I learned that the colony would swarm with very light flows.

This has been a poor season for surplus honey—a continuation of short flows all summer. It has been fine for increase. My apiary has increast from 30, spring count, to 82, with clipt queens, and only 1200 pounds of extracted honey. There is a full flow of white chapperall now on, and the broomweed and other fall producers are looking fine. J. M. McCURDY.

Frio Co., Tex., Sept. 14.

[Mr. Norton replies as follows to the above.—EDITOR.]

In reply to the letter from J. M. McCurdy, I would say that I consider the chaff packing in my hives just as necessary in Texas as Illinois, as it equalizes the temperature, thus avoiding changes that would destroy the eggs. It is very essential that the bees fill the body of the hive, and cluster on all side-walls to attain success. Five or six frames should be well filled with brood, and hen's eggs may be placed over the cluster as early in the spring

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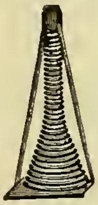

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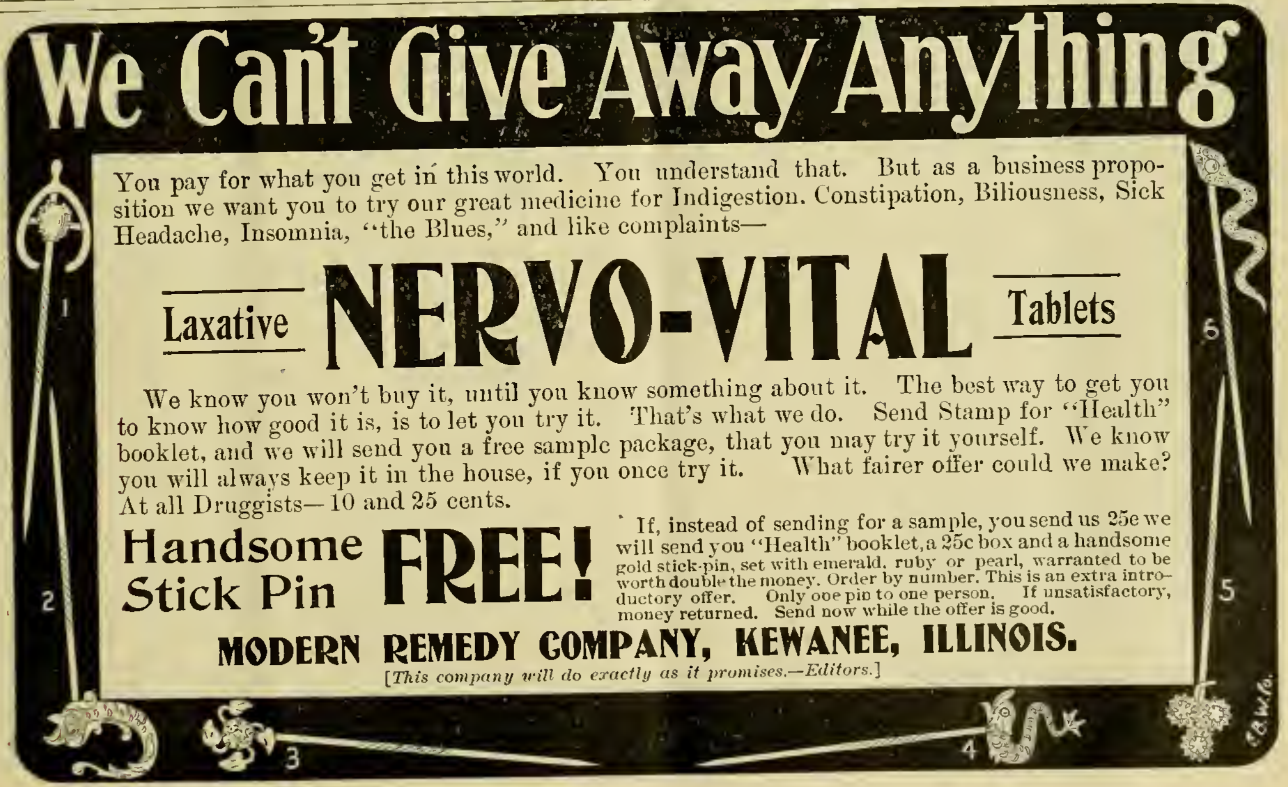

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Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and in case of death, your relatives will at once be notified of the accident.

How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

How to Get this Valuable Knife.—We send it postpaid for $1 10, or give it as a Premium to the one sending us THREE NEW SUBSCRIBERS to the Bee Journal (with $3.00.) We will club the Novelty Knife and the Bee Journal for one year, both for $1.90.

GEORGE W. YORK & CO., 118 Mich. St., Chicago, Ill.

☞Please allow about two weeks for your knife order to be filled.

Please mention the Bee Journal when writing Advertisers.

as bees are in this condition. If your bees show signs of swarming during the time you are hatching chickens in the hives, use the extractor freely—it will stop swarming, and not lower the temperature.

I consider any material similar to oats chaff just as good, tho I have used oats chaff mostly. J. G. NORTON.

It is Willow-Herb.

Is the enclosed plant willow-herb? I have been told that it is. I saw hundreds of acres of it in full bloom a month ago, about 75 miles from here, and if it is the willow-herb I shall make arrangements to have my bees there next year. JOHN ATKINSON.
Crow Wing Co., Minn., Aug. 29.

Pleurisy-Root or Milkweed.

I enclose a plant I would like to have named. It yields a good deal of pollen. Does it yield any honey?
Cook Co., Ill. JOHN ROORDA.

Prof. Walton replies as follows:

The plant is the butterfly-weed, or pleurisy-root, Asclepias tuberosa, and belongs to the milkweed family. Nearly all milkweeds have an abundance of pollen in waxy masses suspended from the stigma. They furnish considerable nectar, and the bees going in quest of it carry the pollen from flower to flower, and thus aid in cross-fertilization. In the "Bee-Keepers' Guide" milkweed is mentioned as a good honey-plant.—C. L. WALTON.

Almost a Total Failure.

The honey crop is an almost total failure in this part of Minnesota. In one or two places a little surplus was secured, but with most bee-keepers it was not.

Bees have plenty for winter, mostly from sweet clover and wild buckwheat, which took a second growth after the heavy rains in August. How it will do for wintering is a question.

J. M. DOUDNA.
Douglas Co., Minn., Sept. 20.

Pinweed.

Prof. Walton, reporting on a plant specimen sent to us and mentioned a few weeks ago, by E. B. Kauffman, of Lebanon Co., Pa., says this:

"The specimen sent for identification is pinweed, lechea minor. It is quite common in dry, sandy soil, and blossoms from June to September. It is an indifferent honey-producing plant."

Bees Away Up North.

The precious colony I wrote about last fall is my precious colony still, tho it is divided into three thriving little communities now. It came out strong in the spring, and found its way to the sugar-bush, where we had some maple trees cut down. The stumps were running over with sap, which delighted the bees till they got the pussy-willows and dandelions. But when fruit-bloom came they fairly took possession of the garden. The noise they made was wonderful, and they lookt so strong we were afraid

Sharples Cream Separators: Profitable Dairying

they would swarm out and leave us, so we divided them, putting the queen on the new stand, and left the bees to do the rest. But after all this they sent off a swarm, tho we had no trouble in hiving them, and at the end of July we had a nice lot of honey—the best I ever tasted, I think.

This is a nice place for honey-bees after all. I would like to get one of Dr. Miller's queens for the poorest colony, I think, as I am not quite sure about their queen. I see some white babies being carried out—not full size, so I fear laying workers.

We have had a very severe drouth the last six weeks, but are having a good rain now. TOM HENRY.

Muskoka, Canada, Sept. 19.

Pleased With Tall Sections and Fences.

I have five 8-frame hives with Ideal supers and section fence-separators. I am well pleased with the fence-separators. I got 148 sections of nice water-white honey from one colony in the spring, and I now have about 25 sections of dark honey on the same hive, which I shall not take off. My other four colonies did well. I will not get any fall honey on account of drouth, as we have had no rain for two months. Holly is our main white honey producer here, beginning to bloom about May 1st and continuing about five weeks.

I take four bee-papers and read them thoroly. I also have some good text-books. I hope every reader appreciates the American Bee Journal as I do, and that it may long continue to send out its weekly budget of interesting information. JOHN P. MCCASLIN.

Grenada Co., Miss., Sept. 18.

Illinois.—The annual meeting of the Northern Illinois Bee-Keepers' Association, will be held in the Court House in Freeport, Ill., on Tuesday and Wednesday, Oct. 16 and 17, 1900. All are cordially invited to attend.

B. KENNEDY, Sec.
R. F. D. No. 5, Rockford, Ill.

Convex Dishorner.—We notice with pleasure the advertisement of George Webster, of Christiana, Pa., elsewhere in this issue. Mr. Webster will be remembered as the manufacturer of the celebrated Convex Dishorner, the firm having been formerly Webster & Dickinson. Some months ago Mr. Webster purchast his partner's entire interest and now is sole owner of the business. A very convenient feature of his sales department is the branch in Chicago from which western orders are filled. All orders, however, go to Christiana as heretofore. Mr. Webster is advertising several new special appliances—one a calf dishorner, and another his Bucker stock-holder—a most effective aid to proper dishorning. It is to the interest of every breeder of cattle to correspond with Mr. Webster and get his catalog, not forgetting to mention the American Bee Journal.

The Mississippi Valley Democrat
—AND—
Journal of Agriculture,
ST. LOUIS MO.

A wide-awake, practical Western paper for wide-awake, practical Western farmers, stock-raisers, poultry people and fruit-growers, to learn the science of breeding, feeding and management. Special departments for horses, cattle, hogs, sheep, poultry and dairy. No farmer can afford to do without it.

It stands for American farmers and producers. It is the leading exponent of agriculture as a business, and at the same time the champion of the Agricultural States and the producer in politics. **Subscription, One Dollar a Year.**

☞ **Write for Sample Copy**

Fully Warranted.
A QUICK, SHARP CUT hurts much less than a bruise, crush or tear.
DEHORNING Done with the KEYSTONE KNIFE is the safest. Quick, sharp cut. Cuts from four sides at once. Cannot crush bruise or tear. Most humane method of dehorning known. Took highest award World's Fair. Write for free circulars before buying.
M. T. PHILLIPS, Pomeroy, Pa., (Successor to A. C. BROSIUS).
Please mention Bee Journal when writing.

BEE-SUPPLIES!
☞ Root's Goods at Root's Prices ☜
POUDER'S HONEY-JARS and everything used by bee-keepers. Prompt Service—low freight rate. Catalog free. WALTER S. POUDER,
512 Mass. Ave., INDIANAPOLIS, IND.
Please mention Bee Journal when writing.

PATENT WIRED COMB FOUNDATION
Has no Sag in Brood-Frames.
Thin Flat-Bottom Foundation
Has no Fishbone in the Surplus Honey.
Being the cleanest is usually workt the quickest of any foundation made.
J. A. VAN DEUSEN,
Sole Manufacturer,
Sprout Brook, Montgomery Co., N.Y.
Please mention Bee Journal when writing.

The Emerson Binder

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.
GEORGE W YORK & CO.
118 Michigan Street, CHICAGO, ILL.

FOR HOMESEEKERS.

The Chicago, Milwaukee & St. Paul R'y will sell regular Homeseekers' Excursion tickets to all points in South Dakota, at one fare plus $2.00 for the round trip, on Sept. 18 and Oct. 2, 1900. This will enable parties to visit the Corn Belt Exposition to be held in Mitchell, S. D., Sept. 26 to Oct. 4, 1900, inclusive. This exposition is held to demonstrate the great agricultural resources, wealth and possibilities of this thriving State. The exposition is held in a gorgeously decorated corn-palace, which for beauty can hardly be excelled anywhere by a building of a temporary nature. There are thousands of acres of cheap lands left in South Dakota that will, under the present conditions in that State rapidly increase in price, and the holding of this corn-palace with its many attractions, that both amuse and instruct, should be an opportunity that all land and investment seekers should embrace.

For further information apply to any ticket agent of the Chicago, Milwaukee & St. Paul R'y, or address Geo. H. Heafford, General Passenger Agent, Chicago. 39A3t

The Humphrey Bone-Cutter advertisement appears in this issue, and we very gladly call the attention of our readers to it. The Humphrey machine is not an experiment; Mr. Humphrey, the maker, is both a skilled machinist and a practical poultryman. They are issuing a very handsome catalog of which their Egg Record is a new feature. Write to Humphrey & Sons, Joliet, Ill., and mention this paper.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Sept. 27.—Choice to fancy comb is selling at 15@16c per pound; good to No. 1, 14@15c; No. 2, white, 12@13c; amber, 11@12c; off grades, including buckwheat, from 9@10c. Extracted white, 7¾@8c; ambers, 7@7½c; dark and off grades, 6½@7c. Beeswax, 28c.

The market is strong, and sales are prompt of nearly all arrivals. R. A. BURNETT & CO.

KANSAS CITY, Sept. 13.—Fancy white comb honey, 14@15c; No. 1 white, 13½@14c; No. 1 amber, 12c; dark, 11@11½c. Market firm, demand good, receipts light. Beeswax, 25@30c.

W. R. CROMWELL PRODUCE CO.,
Successors to C. C. Clemons & Co.

BUFFALO, Sept. 28.—Fancy one-pound comb very light receipt and much wanted at 16 cents mostly, occasionally 17c; very light supply; poor also selling 14@8c as grades. Extracted, no stock here, and not in great demand at any time in Buffalo. Fancy beeswax, 30@33c; dark, etc., 24@28c. BATTERSON & CO.

NEW YORK, Sept. 28.—Comb honey in good demand for all grades at 15@16c for fancy white; 13@14c for No.1 white; 12c for amber and 10@11c buckwheat. Extracted in fair demand at 7@7½c for white, 6½@7c for light amber; 6c amber, and 5½c dark. Beeswax quiet and declining; selling at from 27@28c.

HILDRETH & SEGELKEN.

BOSTON, Sept. 21.—Our honey market is very strong at the following prices, with supplies very light: Fancy one-pound cartons, 17c: A No. 1, 15@16c; No. 1, 15c; No. 2, 12@13c. Extracted from 7½@8½ cents, according to quality.

Can see no reason why these prices should not be well maintained right thru the season.

BLAKE, SCOTT & LEE,

CINCINNATI, Sept. 21.—The demand for fancy comb honey is good and finds ready sale at 16@16½c; No. 1, 15c. The demand for extracted honey at present is slow and offer same by the barrel as follows: White clover, 8½@9c; Southern, 6½@7½c; Florida, 7@8 cents, according to quality. Beeswax, 27c.

The above are MY SELLING PRICES. I do not handle any honey on commission, but pay spot cash on delivery. C. H. W. WEBER.

ALBANY, N. Y., Sept. 22.—Demand good, now at firm prices; White comb, 15@16c; mixt white, 13@15c; amber, 12@13c; buckwheat, 11@12c. Extracted, white, 8@9c; mixt white, 8@8½c; amber, 7@7½c; buckwheat, 6@6½c. H. R. WRIGHT.

DETROIT, Sept. 21.—Fancy white comb 15@16c; No 1, 13@14c; amber and dark, 10@12c. Extracted, white, 7@8c; dark, 5@6c. Beeswax, 25@26c. M. H. HUNT & SON.

SAN FRANCISCO, Sept. 12.—White comb, 12½@13½ cents; amber, 11½@12½c; dark, 7½@9c. Extracted, white, 7½@8c; light amber 6¾@7¼c; amber, 5½@6½c. Beeswax, 26@28c.

There is a very healthy tone to the market, which bids fair to continue thruout the season. Spot supplies are light of all descriptions, and buyers are not lacking at full current rates.

WANTED—HONEY AND BEESWAX.
We have a tremendous and growing trade in this line, and would like to hear from all who have such goods to sell in any part of the country, with quality, description, and lowest cash price. THOS. C. STANLEY & SON, Fairfield, Ill.

WANTED COMB HONEY AND EXTRACTED HONEY. Will buy your honey, no matter what quantity. Mail sample with your price expected delivered in Cincinnati. I pay cash on delivery. C. H. W. WEBER, 2146 Central Ave., CINCINNATI, OHIO.

Wanted To Buy Honey
What have you to offer and at what price?
33Atf ED WILKINSON, Wilton, Wis.
Please mention Bee Journal when writing

Wanted COMB AND EXTRACTED HONEY
State price, kind and quantity, also rate of freight to Boston. BLAKE, SCOTT & LEE,
31 and 33 Commercial Street, BOSTON, MASS.
Please mention Bee Journal when writing.

We have a Large Stock on hand and can ship promptly.

SEND US YOUR ORDERS FOR

Hives, Extractors

OR ANYTHING YOU WANT IN THE BEE-KEEPING LINE.

WE MAKE ONLY THE BEST.

Our Falcon Sections and New Process Foundation are ahead of everything, and cost no more than other makes. New Catalog and copy of THE AMERICAN BEE-KEEPER free. Address,

THE W. T. FALCONER MFG. CO.,
JAMESTOWN, N. Y.

☞ W. M. GERRISH, East Notingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.

Please mention Bee Journal when writing.

SWEET CLOVER

And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white)	60c	$1.00	$2.25	$4.00
Crimson Clover	70c	1.20	2.75	5.00
Alsike Clover	80c	1.50	3.50	6.50
White Clover	90c	1.70	3.75	6.50
Alfalfa Clover	80c	1.40	3.25	6.00

Prices subject to market changes.
Add 25 cents to your order, for cartage, if wanted by freight.

GEORGE W. YORK & CO.
118 Michigan Street, - CHICAGO, ILL.

☞ IF YOU WANT THE

BEE-BOOK

That covers the whole Apicultural Field more completely than any other publisht, send $1.25 to Prof. A. J. Cook, Claremont, Calif., for his

Bee-Keepers' Guide.

Liberal Discounts to the Trade.

CHEAP FARM LANDS

Located on the Illinois Central R.R. in

SOUTHERN ILLINOIS

And also located on the Yazoo & Mississippi Valley R.R. in the famous

YAZOO VALLEY

of Mississippi—specially adapted to the raising of

CORN AND HOGS.

Soil Richest IN THE World.

Write for Pamphlets and Maps.

E. P. SKENE, Land Commissioner,
111. Cent. R.R. Co., Park Row, Room 413,
24A24t CHICAGO, ILL.

Please mention Bee Journal when writing.

FALL SPECIALTIES

Shipping-Cases, Root's No-Drip; Five-Gallon Cans for extracted honey, Danz. Cartons for comb honey. Cash or trade for beeswax. Send for catalog. **M. H. Hunt & Son, Bell Branch, Mich.**

Please mention Bee Journal when writing.

23rd Year Dadant's Foundation. 23rd Year

We guarantee satisfaction. ✻✻

What more can anybody do? BEAUTY, PURITY, FIRMNESS, No SAGGING, No LOSS.
PATENT WEED-PROCESS SHEETING.

Why does it sell so well? ✻✻

Because it has always given better satisfaction than any other.
Because **in 23 years** there have not been any complaints, but thousands of compliments.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

BEE-KEEPERS' SUPPLIES OF ALL KINDS.

Langstroth on the Honey-Bee, Revised

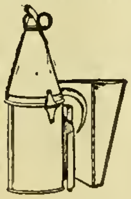
The Classic in Bee-Culture—Price, $1.25, by Mail.

Beeswax Wanted ✻ ✻ ✻

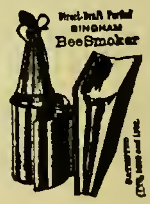
AT ALL TIMES. **CHAS. DADANT & SON,**
Hamilton, Hancock Co., Ill.

Please mention Bee Journal when writing.

MADE TO ORDER.



Bingham Brass Smokers,



made of sheet-brass which does not rust or burn out should last a life-time. You need one, but they cost 25 cents more than tin of the same size. The little pen cut shows our brass hinge put on the three larger sizes.

No wonder Bingham's 4-inch Smoke Engine goes without puffing and does not

DROP INKY DROPS.

The perforated steel fire-grate has 381 holes to air the fuel and support the fire.

Prices: Heavy Tin Smoke Engine, four-inch Stove, per mail, $1.50; 3½-inch, $1.10; three-inch, $1.00; 2½-inch, 90 cents; two-inch, 65 cents.

BINGHAM SMOKERS

are the original, and have all the improvements, and have been the STANDARD OF EXCELLENCE for 22 years. Address, **T. F. BINGHAM, FARWELL, MICH.**

Please mention Bee Journal when writing.

QUEENS

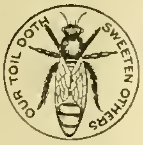
Untested Queens, Italian, 60 cents. Tested, $1.
From honey-gathering stock.
We keep in stock a full line of popular Apiarian Supplies. Catalog free.

Apiaries—Glen Cove, L.I. **I. J. STRINGHAM, 105 Park Place, New York, N. Y.**

Please mention Bee Journal when writing.

Four Celluloid Queen-Buttons Free

AS A PREMIUM


OUR TOIL DOTH SWEETEN OTHERS

For sending us **ONE NEW SUBSCRIBER** to the Bee Journal for the balance of this year, with **30 cents**, we will mail you **FOUR** of these pretty buttons for wearing on the coat-lapel. (You can wear one and give the others to the children.) The queen has a golden tinge.

OUR TOIL DOTH SWEETEN OTHERS

This offer is made only to our present regular subscribers.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate, it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

Prices of Buttons alone, postpaid: One button, 8 cts.; 2 buttons, 6 cts. each; 5 or more, 5 cts. each. (Stamps taken.) Address,

GEORGE W. YORK & CO., 118 Michigan St., CHICAGO.

AMERICAN BEE JOURNAL

GEORGE W. YORK,
Editor.

CHICAGO, ILL., OCTOBER 11, 1900.

FORTIETH YEAR.
No. 41.

WEEKLY

MR. W. F. MARKS, of New York,
Director of the National Bee-Keepers' Association.

(Kindness of Gleanings in Bee-Culture.)

THE AMERICAN BEE JOURNAL.

PUBLISHT WEEKLY BY
GEORGE W. YORK & CO.
118 Michigan St., Chicago, Ill.

[Entered at the Post-Office at Chicago as Second-Class Mail-Matter.]

IMPORTANT NOTICES:

The Subscription Price of this journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50c a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "Dec00" on your label shows that it is paid to the end of December, 1900.

Subscription Receipts—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows you that the money has been received and duly credited.

Advertising Rates will be given upon application.

Reformed Spelling.—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

The Weekly Budget

MR. E. E. HASTY, of Lucas Co., Ohio, writing us Oct. 3d, said:

"This is the last day of the 21st year of my ownership of this apiary—and about the 49th since I helpt to found it, by going with my father to get its two initial hives."

****

RAYMOND J. CLARK, the 23-year-old son of L. J. Clark, of Winona Co., Minn., mysteriously disappeared from Winona, Minn., Aug. 18, 1900, and has not been heard from since. Any information as to his whereabouts would be thankfully received.

****

MR. MICHAEL JOYCE, of Clay Co., Nebr., called on us Oct. 5th. He reported the seasons for two years as failures, most bees dying from lack of food. He now has 10 colonies, and averaged 50 pounds this year. The prospects for next year appear good, as they have had plenty of rain this fall.

****

SENATOR G. W. SWINK is the great muskmelon and honey producer of Otero Co., Colo. Early in September a Chicago commission firm received and sold 100 cases of Mr. Swink's fine comb honey at 17 cents a pound, which was one or two cents above the market. It was said to be as fine honey as ever came to Chicago. The firm handling the honey say they intend feeding Chicago people on the luscious Colorado muskmelons in summer and on the rich honey in winter from the same locality.

****

MR. C. P. DADANT called on us last Wednesday, when on his way home from his European trip. He reports a splendid time, and will write a number more letters about his long trip. He was looking well, but was very glad to get home once more. He had a delightful reception at the Paris Bee-Keepers' Congress. The name of Dadant seems to be as widely known in France as in America—and that is no small thing.

****

ALFALFA HONEY IN UTAH.—Uinta County seems to be one of the best localities in the State of Utah for fine alfalfa honey. A local newspaper publishes a long article on the subject, closing with these paragraphs:

"The crop of honey produced in this county this season has been a phenomenal one when the facts are taken into consideration, because of drouth the second crop was a partial failure, and the entire cultivated area of the county does not exceed 30,000 acres.

"The people from all parts of the country unhesitatingly pronounce our honey the best that they ever tasted, and our people often boast that honey produced here is the best in the world.

"By making a great effort we have secured a report of the amount of honey produced this year by a majority of our bee-keepers, tho there are several yet to hear from. Following are the figures:

"James Hacking, 24,000 pounds; Geo. Freestone, 14,000; Green & Crandal, 20,000; Jacob Collier, 10,000; Weeks Bros., 8,000; Richens & Christensen, 35,000; Geo. Glines, 8,000; C. C. Bartlett, 45,000; J. H. Holgate, 25,000; G. W. VanGundy, 26,000; Bartlett Bros. & Merkley, 53,000; Lewis Lind, 7,500; Orin Perry, 8,000; Thomas Bingham, 4,500; George Langston, 7,200; Abner Richens, 10,500; Alfred Powell, 8,100; Philly Stringham, 4,200. Total, 318,400 pounds."

We have just received a carload of alfalfa honey from the county mentioned in the above, and it is a fine article. Our prices are given below. There ought to be no trouble to develop a large local demand almost anywhere with such beautiful honey to offer to the public.

BEST

Extracted Honey For Sale

ALL IN 60-POUND TIN CANS.

ALFALFA HONEY*******

This is the famous White Extracted Honey gathered in the great Alfalfa regions of the Central West. It is a splendid honey, and nearly everybody who cares to eat honey at all can't get enough of the Alfalfa extracted.

BASSWOOD HONEY*******

This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms in Wisconsin. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

Prices of Either Alfalfa or Basswood Honey:

A sample of either, by mail, 8 cents; samples of both, 15 cents—to pay for package and postage. By freight—one 60-pound can, 9½ cents per pound; two cans, 9 cents per pound; four or more cans, 8½ cents per pound. Cash must accompany each order. If ordering two or more cans you can have half of each kind of honey, if you so desire. This is all

ABSOLUTELY PURE BEES' HONEY,

The finest of their kinds produced in this country.

Read Dr. Miller's Testimony on Alfalfa Honey:

I've just sampled the honey you sent, and it's prime. Thank you. I feel that I'm something of a heretic, to sell several thousand pounds of honey of my own production and then buy honey of you for my own use. But however loyal one ought to be to the honey of his own region, there's no denying the fact that for use in any kind of hot drink, where one prefers the more wholesome honey to sugar, the very excellent quality of alfalfa honey I have received from you is better suited than the honeys of more markt flavor, according to my taste. C. C. MILLER.
McHenry Co., Ill.

Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

Address,
GEORGE W. YORK & CO., 118 Michigan St., Chicago, Ill.

Established in 1861
AMERICAN
BEE JOURNAL
The Oldest Bee-Paper in America

40th YEAR. CHICAGO, ILL., OCTOBER 11, 1900. No. 41.

⁂ Editorial Comments. ⁂

Mailing Clipt Queens.—In the department of "Questions and Answers," a correspondent inquires why the wings of the Dr. Miller premium queens were clipt before being sent out, and he is entitled to a fuller answer than he there receives.

It should be frankly stated in the outset that it is to be regretted that it was not distinctly mentioned in advance that the premium queens would be clipt. Then there would have been no chance for misunderstanding. But one does not always think of everything in advance.

It would have been easier, of course, to have sent out the queens without clipping, but after careful consideration it was concluded that the best interests of those receiving the queens would be served by having the queens clipt before mailing. It was believed that the large majority would prefer to have their queens clipt in advance—a belief that seems warranted by the fact that only *one* of the whole number receiving the queens has entered any protest.

This brings up the general subject of clipping all queens previous to mailing, a practice that is beginning to prevail to a small extent, and it may be well to give some reasons why it should more generally prevail. The number of those who prefer to have queens clipt has been constantly on the increase, and among those who receive queens by mail are no doubt many who have had little or no experience in clipping queens, but still prefer them without whole wings. Our correspondent says: "It seems to me that if the purchaser wishes the wings clipt, he can do it." It would be at much inconvenience that a purchaser could clip a queen on arrival, for she is in an introducing-cage, and if taken out for the purpose of clipping, there are chances that she might decide to make use of her wings before the clipping was done. Instead of being to the trouble of taking the queen out of the cage and then putting her back into the cage after being clipt, the purchaser would naturally prefer that the operation should be performed by the one who cages her for mailing, for it is comparatively little trouble to clip her while she is in his fingers for caging.

Aside from the generally familiar reasons why a queen should be clipt so that she may not decamp with a swarm, there is a very important reason why a queen received by mail should be clipt, even if the purchaser should prefer that all the rest of his queens should be unclipt. It is that clipping is necessary for the purpose of identification. A queen is received thru the mail, and after the purchaser has had sufficient time to note results, he finds no improvement in his stock. It is important that he should know for certain that the queen in the hive is the identical queen he received by mail. It is difficult in most cases, if not impossible, to be entirely certain whether the queen in a hive is the one introduced or some other. The cases are by no means rare in which two queens are in a hive, a mother and a superseding daughter. The bee-keeper kills one, but the other remains to kill the new queen after she is put in the hive. Sometimes an unsuspected queen-cell is present, and a queen from that takes possession. It sometimes happens that a virgin, or even a laying queen, enters from some other hive, after the bee-keeper has made sure, as he thinks, of the impossibility of the presence of anything in the shape of a queen. In all these cases it is highly important that the new queen be clipt, so that she may be positively identified.

A Stray Straw in last Gleanings in Bee-Culture is right to the point, and is as follows:

> August 18th I took a queen from a nucleus and gave it a caged queen-cell due to hatch Aug. 22d. Aug. 31st I gave it a frame of young brood. Sept. 18th I found eggs and brood, and on the same comb, not two inches apart, two queens, one a virgin by her looks. The case looks a little like this: When the frame of brood was given Aug. 31st, the bees started a queen-cell as a precautionary measure, because their queen was not yet laying, and then allowed both to continue. But did you ever know of such an exception before? Now, suppose these had been black queens, and I had sent to a queen-breeder for an Italian, which I introduced after killing one of the blacks without seeing the other. The Italian would be killed, and three weeks later I would find only blacks hatching, and would feel sure a black queen had been sent me.
>
> [This can and probably does explain how, in one way, a good tested queen turns out to be no better than a common black. Lately we have been clipping our best queens, and only this week we had a case where a customer reported that an imported we had sent him was nothing but a hybrid. We wrote back, and askt if the queen now in the hive had a clipt wing. We have not yet heard from him, but are morally certain that one of two things is true—either that he does not know how to distinguish hybrids from pure Italians, or that the queen has got supplanted in the manner you speak of. It has very often happened, when we have ferreted the matter clear down, that there has been an exchange of queens. The customer was entirely honest, and supposed that we had, of course, made some mistake.—EDITOR.]

The question arises: If the A. I. Root Co., think it advisable that the "best queens" be clipt before mailing, is it not equally desirable for queens of less value?

Extracting-Combs and Unfinisht Sections.—Getting such cleaned up by the bees in the fall is considered by some to be an unnecessary labor. Before acting too largely on that belief, it may be well for the novice to remember that such cleaning up by the bees is at least safe, and that it will *not* result in having anything sour in the combs, nor in having granules to help granulation in the honey the following season.

If a large number of sections or extracting-combs are to be cleaned, the most rapid way to have it done is to use the B. Taylor plan, and expose all at once as fully as possible in the open air for the bees to rob out. While this is the most rapid way, it is not the safest way in all cases, for if the amount to be cleaned up is not sufficiently large for the number of bees, the sections and the extracting-combs that are not tough thru age will be badly torn. For the beginner at least, the safer way is to use the Dr. Miller plan, and allow access to the combs by means of an entrance large enough to admit only one bee at a time.

It will be still better if you can induce the bees to clean out the combs by placing them over strong colonies and allowing only a small passage between the lower and upper stories. But in some cases the bees will not do this.

The Illinois State Fair was held Sept. 24th to 29th, inclusive. The exhibits of bees and honey were excellent, but confined to a very few exhibitors. Mr. F. Grabbe, of Lake Co., Ill., was judge of the apiarian exhibits. The following is a list of the awards and winners of them, kindly furnisht by Mr. Jas. A. Stone, secretary of the Illinois Bee-Keepers' Association:

Display of comb honey—1st premium, Jas. A. Stone & Son, $20; 2d, Chas. Becker, $15; 3d, J. Q. Smith, $10.

Collection of labeled cases of white honey—1st, J. Q. Smith, $8; 2d, Chas. Becker, $5; 3d, Jas. A. Stone & Son, $3.

Collection of labeled cases of amber or dark honey—1st, J. Q. Smith, $8; 2d, Chas. Becker, $5.

Case of white clover comb honey—1st, J. Q. Smith, $4; 2d, Jas. A. Stone & Son, $3; 3d, Chas Becker, $2.

Case of sweet clover honey—1st, J. Q. Smith, $4; 2d, Chas. Becker, $3; 3d, Jas. A. Stone & Son, $2.

Case of basswood comb honey—1st, Chas. Becker, $4; 2d, Jas. A. Stone & Son, $3; 3d, J. Q. Smith, $2.

Case of amber comb honey—1st, Chas. Becker, $4; 2d, J. Q. Smith, $3; 3d, Jas. A. Stone & Son, $2.

Display of extracted honey—1st, Chas. Becker, $20; 2d, J. Q. Smith, $15; 3d, Jas. A. Stone & Son, $10.

Display of honey extracted on the grounds 1st, Chas. Becker, $5; 2d, J. Q. Smith, $3.

Frame of comb honey for extracting—J. Q. Smith received all three premiums—1st, $5; 2d, $3; 3d, $2.

Display of candied honey—1st, J. Q. Smith, $20; 2d, Chas. Becker, $15; 3d, Jas. A. Stone & Son, $10.

Display of beeswax—1st, Jas. A. Stone & Son, $15; 2d, J. Q. Smith, $10; 3d, Chas. Becker, $5.

One-frame observation hive of dark Italian bees—1st, Chas. Becker, $4.

One frame of Golden Italian bees—1st and 2d, J. Q. Smith, $4 and $3; 3d, Chas. Becker, $2.

One-frame observation hive of Carniolan bees—1st, Chas. Becker, $4.

Honey-vinegar 1st, Jas. A. Stone & Son, $4; 2d, Chas. Becker, $3.

Display of novelties in honey—1st, J. Q. Smith, $12; 2d, Chas. Becker, $8.

Non-Swarmers Good Harvesters.—A Stray Straw in Gleanings in Bee-Culture says:

> Formerly I thought that a colony that did not swarm stored more than others simply because of not swarming. I am gradually settling into the belief that, when you find a colony not given to swarming, you find unusually good harvesters, and *vice versa*.

Expresses His Thanks Untested Queens.—The following letter from Dr. Miller needs no explanation from us:

MR. EDITOR: I wish you would express my hearty thanks to the many that have sent words of appreciation of the premium queens sent out. But that my time is so fully occupied, it would have been a pleasure for me to have written a personal word to each.

It has been a matter of surprise that a few have had erroneous views as to what constitutes an untested queen. They seem to have thought that it was one which would without fail be properly received by the colony to which it was introduced, and would do good work at laying *after* being thus introduced. Instead of that, all that is to be demanded of one who sends out an untested queen is that she shall be the daughter of certain stock, and that she shall lay before being sent out. The responsibility of the sender ends with that, unless he specially agrees to replace any queen that arrives dead. Every one of the premium queens sent out was the progeny of stock that had an extra record for honey-production, and every one of them did good work at laying *before* being sent out. There will be some losses in introduction, and occasional cases in which queens do poor laying after being thru the mail, but the receiver takes the risk of that.

One subscriber mailed me a queen, with the desire that I replace it, saying it did not lay. Even if it had been the right thing to replace any that did not lay, I could hardly be askt to replace that queen, for the queen he sent to me was not the one I sent to him, having entire wings, whereas the one I sent him was clipt. I have no doubt he was honest in supposing he had returned the queen I sent him, as he says he killed the queen in the hive before the introduction, but it is by no means a rare thing for a virgin queen to turn up in a hive where she is not suspected.

As I said some time ago, there will no doubt be among the premium queens some that are not up to the mark, but the great majority of them will, I think, give a good account of themselves. C. C. MILLER.

Foreign Apiarian Views.—The views and practices of bee-keepers in other countries differ so much from those of this country that one is at a loss to account for it. In England, as well as in some other countries, the black bee is by a great many preferred to the Italian, whereas in this country the Italian is almost universally preferred.

In this country the number of bee-keepers who make their own comb foundation is very small, and nearly all the foundation is made on cylinder machines, while in Germany thousands of foundation presses are owned and operated by bee-keepers.

In this country a brood-comb ten years old is considered better than one freshly drawn out, while across the water a ten-year-old comb is considered objectionable. H. Stassart, a writer in the French journal, l'Abeille et sa Culture, advises that each year at least two of the old combs in a brood-nest be replaced by frames of foundation. It would be hard to get many bee-keepers in this country to do that if the frames of foundation were furnisht free.

The same writer says it is essential that every colony that has not swarmed shall have its queen renewed at least once in three years. In this country it is generally preferred to leave the matter to the bees, and it is probably rare that the bees will continue a queen longer than the three-year limit.

York's Honey Calendar for 1900 is a 16-page pamphlet especially gotten up to create a demand for honey among should-be consumers. The fore part was written by Dr. C. C. Miller, and is devoted to general information concerning honey. The latter part consists of recipes for use in cooking and as a medicine. It will be found to be a very effective helper in working up a home market for honey. We furnish them, postpaid, at these prices: A sample free; 25 copies for 30 cents; 50 for 50 cents; 100 for 90 cents; 250 for $2.00; 500 for $3.50. For 25 cents extra we will print your name and address on the front page, when ordering 100 or more copies at these prices.

"**The Hum of the Bees** in the Apple-Tree Bloom" is the name of the finest bee-keeper's song—words by Hon. Eugene Secor and music by Dr. C. C. Miller. This is thought by some to be the best bee-song yet written by Mr. Secor and Dr. Miller. It is, indeed, a "hummer." We can furnish a single copy of it postpaid, for 10 cents, or 3 copies for 25 cents. Or, we will mail a half-dozen copies of it for sending us *one new* yearly subscription to the American Bee Journal at $1.00.

Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Upon receipt of $1.00 for your Bee Journal subscription *a full year in advance*, we will mail you a Wood Binder free—if you will mention it.

Convention Proceedings.

Report of the Proceedings of the 31st Annual Convention of the National Bee-Keepers' Association, held at Chicago, Ill., Aug. 28, 29 and 30, 1900.

BY DR. A. B. MASON, SEC.

(Continued from page 632.)

After a short intermission, the convention was again called to order by Pres. Root, and Miss Ethel Acklin delighted the delegates with a song.

Mr. N. E. France moved as follows: As there is a great difference in score cards in judging bees, honey, and supplies at the fairs of our land, I move that this National Bee-Keepers' Association appoint a committee of three to consider the matter and report on the same before we adjourn.

The motion was seconded and carried.

THE MAILING AND REARING OF QUEEN-BEES.

Pres. Root—Is there anything further before we renew the discussion on Mrs. Acklin's paper, the rearing of queens? Where we left off was whether queens are injured in transmission thru the mails, and whether we should rear our own queens or buy them. You may not care to go on with that, but I simply tell you where we left off.

Dr. Mason—Queens are injured in the mail, or else those who have sent me queens have defrauded me, and that I don't believe, because I have gotten them from Root, Dadant, Hutchinson and Doolittle, and I don't believe I have been defrauded by any one of them; I believe the queens are injured in the mails.

H. F. Moore—I can think of one instance where they may be injured. At my station the mail train goes by at 40 miles an hour, and the mail-bags are thrown off at that speed against a shanty. I am satisfied a queen would not be worth very much after passing thru that ordeal.

E. Kretchmer—I know of one instance where every bee in the cage was killed by being thrown from a rapidly passing train.

Pres. Root—Are you sure it was from the concussion they received, or was it from some other cause?

Mr. Kretchmer—They had not been in the mail-bag more than 10 to 15 minutes.

Mr. Poppleton—I have quit ordering bees thru the mail entirely.

Mr. Hutchinson—There is something else besides rough treatment; some of the very best queens I have had have been sent a long distance by mail; while the queens may not apparently be injured, people report they are almost worthless, and superseded in a very short time. There is something about putting them in a little cage and sending them away in the hight of the season that seems to weaken their laying powers.

Mr. France—I have noticed over the State of Wisconsin this year more than usual that specially tested laying queens were the ones that complaint was brought about, and I think the sending of a laying queen by mail is a detriment to her.

Frank Coverdale—I received 50 queens in one batch from Texas, about two years ago, and all were introduced safely without the loss of one, but two smothered to death, which might have happened in Mr. Kretchmer's case; they might have been smothered instead of being killed in the mail. All those queens came thru as perfectly as if I had reared them myself. That is a pretty big batch.

Dr. Mason—How do you know they were smothered?

Mr. Coverdale—I watcht them smother.

A Member—What did you let them smother for?

Dr. Mason—Did they smother after they got to your place?

Mr. Coverdale—The weather was very hot; I had to get them down cellar in a hurry.

Mr. Abbott—It strikes me we are getting too much on one side of the question. We are giving the impression that it isn't safe to send queens thru the mail at all; that isn't doing justice to our queen-breeders. I have been getting queens thru the mails for 13 or 14 years, and I have never had an instance of a queen being injured in the mails, excepting on one occasion where all the bees and the queen were dead; how that came about I am not able to tell; of course, they may have been killed in the mails. A great many times they are killed, I know, by bad handling before they reach the mails as many times as they are in the mails. A few years ago I was getting queens from the Old Country; while Mr. Benton was in the East he sent me a number of queens from the Island of Cyprus, and if I am not mistaken some came from Jerusalem, and only two or three of all the queens that were sent over were dead, and they died on the way. Those queens were, so far as I could see, just as good as tho I had reared them in my own yard. I think we are doing the queen-breeders a little injustice when we emphasize the fact too much that they are injured in the mail. You may break your leg walking down a slippery street; you don't always do it. If you see your neighbor walking down and he does it, you don't stop on that account. There were four men in our city killed with electric wires in four weeks, yet the men go right up the places where the others went, and go on with the work as tho nobody had fallen and was killed; it doesn't necessarily follow that because one man took hold of the wrong wire and got more electricity than he could stand, that the next man will do it. It doesn't necessarily follow that because a few bees are injured in the mails the rest will be injured. I believe I get as good queens to send out to my customers as tho they had been reared in their own apiaries; and on very many occasions I believe they are a great deal better, because the people from whom I get them know better how to rear them than I do, or the people to whom they are sent. There are a whole lot of things to know. I don't know anything about rearing good queens. A man askt me about foul brood; I don't know anything about it. If you will ask me about Belgian hares, I can tell you, but I don't know anything about the diseases of bees. I believe in giving the fellow that does know how every possible chance, and don't let us kill his business by creating the impression that you can't transmit bees in the mail.

Dr. Mason—I don't see that we are doing the queen-breeders any more injury when we say we have failed to get good queens thru the mails than we are giving all the people of St. Joseph unjust consideration because four of them got killed by lightning; there is just as much justice in blaming those fellows for getting killed as there is in blaming queen-breeders for the injury to queens in the mails. I don't blame Mr. Root for sending me a queen that proved to be a poor one. I feel sure he sent me a good one; something went wrong before she reacht me, and I believe the mail was to blame for it. Like those men Mr. Abbott speaks of in St. Joseph getting killed, the rest will go on handling wires and we will go on ordering queens just the same, I suppose.

Pres. Root—There are other phases of the question very interesting; we ought to have our question-box very soon.

H. W Funk—I wish to ask Mrs. Acklin about what percent of those cell-cups will be accepted when bees are not gathering honey freely?

Mrs. Acklin—I hardly know what to say. I know this year we have had a great deal of trouble in having the cells accepted—more this year than ever before; it was so very dry in our part of the country the first of the season. I should think anyway about 75 percent for a poor season.

Mr. Funk—I have tried the system, and the bees accept about 1 in 3, when there is no honey coming in. When honey is coming in freely it works all right; when honey seems to be a failure the plan is pretty much a failure to put in the cell cups direct.

Mrs. Acklin—If you feed the colonies before you put the cells in, you will succeed better.

Mr. Funk—I have tried that to some extent with very little difference, if any.

Mrs. Acklin—It seems to make a difference with us.

Pres. Root—It makes all the difference with us; we can't do anything with getting cell-cups accepted unless we feed a little every day; feed them four or five days previous to the time of giving the cell-cups.

Dr. Mason—I want to ask Mr. France if he thought the queens were as liable to be injured in the mail provided they were caged and left a day or two before being shipt?

Mr. France—I think not.

Dr. Mason—When I have ordered queens I have generally suggested to those I ordered from to cage them and leave them a day or two before shipping.

O. L. Hershiser—It strikes me that we can not tell whether they have been injured in the mails or not; take the class of untested queens that are shipt a very short time after they begin to lay; it is impossible to tell whether they would be good layers or not; you can't tell whether they were injured in the mail or not. It seems to me that only with queens that have been kept a long time can we tell whether they have been injured or not in this way. I received about 65 queens in the mails last summer; there was no injury that I could tell. Mr. Root has handled a good many queens that have come from the Old Country. I think he could tell us a good deal.

Frank Benton—It seems to me we should distinguish as to the packing; that may cause these injuries. There is no doubt that a queen occasionally is injured by the jarring in the mails by the violent throwing of the sacks, but that is very seldom. I have sent out some hundreds of queens in the last few years, and not one arrived dead until this year, and the report was that that queen having gone from Washington, D. C., to Philadelphia, had arrived, and lookt as tho the bees had been smasht, or something of that kind. I can't understand how it could have occurred except from throwing the sack, but I believe more queens are injured by faulty packing than by any other process whatever. I began sending queen-bees by mail 28 years ago. Some shipments at first went across the Gulf of Mexico, across into Texas, and arrived in excellent condition. The percentage of successful shipments was very much behind the present day, but I have been experimenting with that all these years; I shipt some from the Island of Cyprus; I think I sent the first queen that went on a long sea voyage, sent one lot of 80, and they arrived in good condition in London, England; that shipment was followed by others in 1872; the first shipment was sent across the Atlantic to Australia and New Zealand in 1875; many arrived in as perfect condition as they were sent; many times there were losses attributed to the packing and accumulation of the mails, and things of that kind. I have here in my hand a queen that traveled by letter post from the Island of Cyprus to this country, 18 days on the way, and when I took her from the hive day before yesterday, I could not see that she had suffered on her journey at all. That would not establish a rule, but I have received large numbers of queens from Austria. It is very rare indeed to get a queen that is injured. Occasionally some of them, I think, are replaced sooner, but it is very rare indeed to get one that is dead. When the bees begin to suffer I feel the queen may be injured; she will be if the bees suffer very severely. The food is a very important element, and should be neither too soft nor too hard. It should be so prepared that it is impervious to moisture. The central department of the cage should be shut off as far as possible from the other compartments, and still be free of access in case of change of temperature. It is better to put too few than too many workers in; too many cause the bees to sweat or smother, but too few will stand a greater degree of cold if they have this compartment shut off so they can draw back. The cage should not be too large. When the bees are jolted about, they should have room to be protected. I would not take altogether very young bees or very old bees—perhaps about seven days old. I think if we give heed to the manner of packing, and be sure that our queens themselves are vigorous, there will be a very much less percentage of loss or injury thru the mails.

Mr. Acklin—I would like to ask Mr. Benton how many workers he puts into a cage with one compartment?

Mr. Benton—I never made a cage with one compartment—always three compartments.

Mr. Acklin—The cage we use has one compartment for the candy and one for the bees.

Mr. Benton—It is not the cage that has received my name then. For transmission anywhere east of the Rocky Mountains, I would put, during the summer season, about eight to ten workers, not more than ten. In the cage should be two compartments for the bees, and one for the food; in this instance each compartment about one inch across and ¾ inch deep. For transmission across the Atlantic I put in about 12 to 14 workers, have the holes a little deeper, nearly one inch deep and one inch across; two good compartments for the bees, one for the food. That is the size I would use in the shipments to Australia and New Zealand.

Mr. Acklin—We have formerly been using a cage with one large compartment, one side of which we have tin. We found we had a large percentage of loss. We changed to the Benton cage, and our losses were largely reduced. Small compartments about ¾ inch hole and 1 inch deep are better than large openings.

A. D. D. Wood—Twice the past season I have had a queen from the same place; a gentleman who has handled bees for a good while, altho he is a foreigner, not conversant with our language, and did not read much in our books; he furnisht queens at two different times, and both times they died without being successfully introduced, and were only carried a matter of three miles. I think in this instance the deaths were due to the fact that he put no pasteboard or air-tight covering over the wire in the face of the cage. He used the ventilated cage; did not protect them in any way; they were not in the mails at all.

Mr. Acklin—That is a very important matter that Mr. Benton mentions, of having three holes, one a dark compartment, and another that is lighted and better ventilated. In cold weather we make a little difference in the packing of our cage. We put oil paper over the top, up to the outside hole. I never before noticed there was a difference between our cage and the real Benton.

(Continued next week.)

Contributed Articles.

Importance of Preparation of Bees for Winter.

BY H. D. BURRELL.

If we hope for a good honey crop in 1901, and of course every live apiarist does, it is very necessary that bees go into winter quarters in good condition. Unite the weak colonies, feed the light ones, and, if bees are to be wintered out-of-doors, tuck all in snug and warm before Nov. 1. In my experience for a long term of years, bees winter better if all work with them is finisht before settled cold weather begins. Bees should have several good flights after they are disturbed last, if possible.

Bees often winter well when badly disturbed in winter, but they winter in spite of it, not because of it. I once heard—from a reliable source, too—of a bee-keeper who made a practice of frequently stirring up his bees in winter, pounding on the hives, etc. He "wanted them to wake up and eat, and not get cold and stiff, and starve." And his bees wintered well, too; but no wise bee-keeper will follow that plan.

Once I had three hive-covers blow off during a wet snow-storm in November, and when it was discovered some hours later, there were several inches of snow on the bare combs. While one-third of all the colonies I had died before May came, those three wintered well; but I never thought it was because they got wet. When the stores are all right, and the bees of normal strength, and kept dry, they will winter well anyway, but we seldom know surely that the stores are all right. Therefore, it is always safest to supply the good conditions every year that are always under our control. It is better to be safe than sorry.

My methods of preparing bees for winter are as follows: I have seen in August that all colonies I intend to winter are of good strength, and have good queens. I always have a fall crop of honey, large or small, which lasts until frost comes, usually about the middle to the last of September. Very soon after this time, the caps are removed from the hives and each hive weighed. Light platform scales are easily moved from hive to hive, and two operators lift the hives to the scales and weigh them. This work is soon done, and there is no guess-work about weights. We know the weight of a hive and set of combs, and, before the colonies are put away for winter, know that each one has at least 30 pounds of stores, and if some have 40 pounds, all the better. All these stores will not be used before new honey comes in the spring, but sometimes little honey is carried from early bloom, because of unfavorable weather, and I prefer that every colony shall have sufficient stores in the fall to last until June. It saves time and tinkering.

Sometimes combs of honey are taken from extra-heavy hives for lighter ones; sometimes the light ones are given frames of honey reserved for this purpose when extracting, and sometimes I have to feed sugar.

If I lived in a locality where there was no fall honey crop, and it was necessary to feed, I would feed in August a thin syrup made of about equal quantities by weight of water and sugar, mixt cold, and fed slowly. For feeding late I want a syrup nearly of the consistency of ripe honey, and this should be fed as quickly as possible, so as not to induce brood-rearing. Too young bees are apt to winter poorly.

For each 14 pounds of feed wanted, weigh out 4¼ pounds of water, the ¼ pound to allow for evaporation. Heat the water to the boiling point, then stir in slowly 10 pounds of the best granulated sugar for each 4 pounds of water, and let all commence boiling again; then remove from the fire. While waiting for the syrup to boil, dissolve in a cup of warm water one-half teaspoonful of pure tartaric acid for each 10 pounds of sugar, and stir it into the syrup. This is important. Unless some preventive measure is taken, the syrup will harden in the combs, and the bees starve. I once lost 50 colonies of bees in that way. One-fourth or one-third pound of good extracted honey to each pound of syrup, well mixt while the syrup is warm, will also prevent granulation.

While the feed is yet quite warm, feed it to the bees, giving at one time all a colony needs, if possible.

I have used many different kinds of feeders, but like best one invented by James Heddon. This is a wooden box which holds about 25 pounds of honey or syrup, and covers the entire top of a hive. It is so arranged that bees won't drown in it, and can be filled without coming in contact with the bees. With 30 of these feeders I once made the syrup and fed five barrels of sugar in five days, to over 100 colonies of bees, for winter stores. If the weather is not too cool, an average colony will carry 25 pounds of syrup in one night.

A tin pan makes a fair feeder, if placed in the hive cap filled with warm syrup, and covered with cheese-cloth, thru which the bees will draw the feed and not get drowned.

I have wintered bees successfully in a cellar, but in this country, where we usually have cold, backward springs, bees need protection about as much in the spring as in winter, often until late in May, and we prefer protecting them on the summer stands.

My hives set in groups of four, two facing east and two west. In summer the hives in each group are about one foot apart, and the groups eight feet. With this arrangement bees or queens seldom get into the wrong hive. For wintering, the hives in each group are placed close together, and a bottomless box is used large enough to allow five inches of packing around the hive, and six inches on top. This box is made in four sections of shiplap stuff, and can be easily taken apart and packt away in small compass in summer. One side of the box is 8 inches higher than the other, which gives a slope to the roof. The roof is made of 6-inch re-sawed sound lumber. Two layers of these thin strips, loosely laid on, and breaking joints over the cracks, keep all dry. They are held in place by a loose crosspiece at the top and bottom, weighted with stones. If nailed together they swell and shrink and crack. For packing material I prefer dry sawdust, but planer-shavings, dry leaves, or chaff, does very well.

The hive-covers are removed, and the slat honey-boards turned over. This gives an open space of about ⅝ of an inch over the frames, and permits the bees to pass freely in a body over them. A piece of burlap or other cloth is placed over the honey-board, and the packing placed on it. An opening is arranged thru the box, and packing to the entrance of the hive, which permits the bees to pass out and in, in fair weather. The packing material is placed directly on the ground, and never absorbs enough moisture from it to wet it for more than an inch. Of course, the hives set where water never stands.

The hives have loose, reversible bottoms, and as placed for winter allow two inches of space under the frames, which I find a great advantage in wintering. It permits the dead bees to drop below the combs, and insures good ventilation. A strip of wood, with a notch on one edge ¼ by 3 inches, fills the front end of this open space. In winter this strip is placed notch-side up, and gives an entranceway for the bees, which never gets clogged with dead bees, and is too small to permit mice to enter. In the spring the strip is easily removed, and the dead bees raked out, and then the strip is replaced notch-side down, for the better convenience of the bees in their spring work. In winter, a slanting board is leaned against the packing-case before the hive entrances, which keeps out wind, snow, and sunshine. The sun shining into the entrance of a hive will often coax bees out when it is so cold they will not get back.

My bees are left in winter quarters until all danger of cold weather is past, often until June. I much prefer the method of out-of-door wintering to using double-walled hives. They are expensive and cumbersome.

I have been almost uniformly scccessful with this method of wintering bees, and have never met with very serious winter losses since I adopted it, even in hard winters when neighbor bee-keepers lost all, or nearly all, their bees.

Van Buren Co., Mich.

Questions Answered—Sections Carrying Foul Brood

BY G. M. DOOLITTLE.

QUESTION.—Would there be danger of communicating foul brood to a healthy colony of bees by using over it sections and section-holders which had been used the previous season on foul-broody colonies (the combs in them containing no honey), provided the sections and holders were scraped and sandpapered?

ANSWER.—This is something I do not remember ever hearing about being tried, nor did I try it when my bees had foul brood in the early 70's. From the experience I had with the disease at that time, and knowing what foul brood in the apiary means, I would say that I should not want to try such an experiment, for the risk would be too great. However, if I had many such sections and holders I think I would do this: I would locate two or three colonies of bees four or five miles from all other bees, and use these sections on them, keeping the remainder where no bees could gather propolis from them, and, after one or two years' test, if no harm resulted to these colonies, I should consider it safe to use the rest anywhere.

FOUL BROOD SPREADING.

QUESTION.—If a colony is attackt with foul brood, how long a time will it require for the combs to become one-half or more affected?

ANSWER.—That depends very much upon the time of the year, and upon how much foul-broody honey was taken into the hive when the disease was started. If one of my colonies was to rob out a diseased colony, bringing from 10 to 15 pounds of honey from it during the month of April, I should expect that said colony would have cells of diseased and dead larvæ thruout all of the brood by the middle of July to the amount of one-half or more of the cells containing brood; but of course the dead and live brood would be all mixt together to a greater or less extent. If only a few bee-loads of honey were taken, and this during the month of September, I should not expect the brood to present the above appearance before the next August, and possibly not till the spring of the second year. But, as I have had no foul brood to deal with since the year 1873, I feel that my ideas in the matter may be like the backslidden professor's prayers, "a little rusty."

SUPERSEDING QUEENS.

QUESTION.—In your "Scientific Queen-Rearing" you speak of finding a colony about to supersede their queen, and then keeping them building queen-cells and rearing queens for you as long as the queen, about to be superseded, lived. Now, what I wish to know is this: How do you know, or how can you tell, when a colony is about to supersede its queen?

ANSWER.—From an experience covering a period of more than 30 years, I think that I can safely say that bees never build queen-cells to a state of perfection great enough to be supplied with eggs or larvæ unless they expect to swarm or supersede their queen. To be sure, they will start embryo queen-cells or "acorn-cups," as some call them, all along during the season of the year when they can fly from the hive, but none of these are carried or built out further toward perfect queen-cells by way of lengthening out and drawing the mouth of them down to the size in which we find eggs and larvæ in them, unless the bees are either intending to swarm or supersede their queen. So, when you find lengthened-out queen-cells, you can rest assured you will find either eggs or larvæ in them. And when you find queen-cells having eggs or larvæ in them at any other time save the swarming season; you may know that the bees are about to supersede their queen.

Now, when finding such lengthened-out cells containing eggs or larvæ, you may always know that such a colony will save and rear all of the larvæ (unless injured in transferring) into fine queens you may give them in prepared cells, as I give in my book, and all queens so reared will prove to be the very best queens that you can possibly rear under any condition, or by any of the known plans, no matter whether the colony intends to swarm or supersede its queen. There is this difference, however: If the colony swarms that puts a stop to its rearing queens for you, unless you return the swarm; but if it intends to supersede its queen it will build queen-cells right along for you as long as the old queen lives. But you must not let this colony so perfect a young queen that it emerges from the cell, but keep the queen-cells taken out before any hatch, all the while; for if a young queen is allowed to emerge from her cell, the bees may let her kill the old one, or whether she does this or not they will build no more cells, and most likely they will destroy all the other queen-cells that may be in the hive at this time.

REARING QUEENS AFTER THE HONEY-FLOW.

QUESTION.—I wish to rear some queens to supersede a part of my old ones after the honey-flow is past. Can I rear them as late as September or October, and be sure of drones for their fertilization without any special provision for drones?

ANSWER.—In this locality drones are usually driven out of the hives very soon after the honey-flow ceases; and unless there should happen to be some queenless colony in the neighborhood which would keep their drones, the queens reared as our questioner proposes might prove to be drone-layers; still, as a rule, some colony within mating distance of our queens is liable to hold or keep their drones so that little risk is run in having queens prove drone-layers if reared the first half of September. But I should prefer to run no risks, nor would I wish my queens to take their chances of mating inferior drones, coming from a promiscuous source; and for this reason I set frames of drone-comb in two or three of my best colonies for drones about the middle of the summer honey-flow, and as soon as that flow is over this drone-brood is mast in a very strong tiered-up colony, which is now made queenless, when it will keep the drones from this selected brood as long as it has no laying queen. This colony is now fed abundantly, so that the drones are inclined to go out in great numbers on every pleasant day, and thus we secure the mating of our queens to our satisfaction.

This massing of drone-brood from selected mothers for fall rearing of queens pays as well, according to my way of thinking, as anything any queen-breeder can do. I am fully persuaded that as much depends upon the selection of good drones as upon the selection of the queen we breed from; yet how few pay any attention to this matter of the selection of drones. And I have been so much interested in this matter that for several years I have, on cool days when not troubled with robber-bees, "hand-pickt" the drones coming from these selected mothers, picking out and killing all of the inferior drones, as to size and markings, contained in this drone-keeping colony, believing that the improvement in my bees has more than paid me for so doing.

Of one thing I am certain, and that is, that we can not pay *too* much attention to the improvement of our bees.

Onondaga Co., N. Y.

Apiary of Mr. Chas. Roebling, Hamilton Co., Ohio.

BY JOHN R. SCHMIDT.

AUGUST 4th I had the pleasure of visiting one of the best regulated and nearest to the so called "model apiary" that I have ever seen. Taking a street car I was soon "whizzing" thru the busy streets toward one of the most beautiful and picturesque suburbs to be found anywhere in the United States. A ride of 30 minutes on one of our fast and up-to-date electric cars, brought me to within a seven minutes' walk of the home and apiary of Mr. Chas. Roebling, a most enthusiastic and intelligent bee-keeper.

Apiary of Mr. Chas. Roebling, Hamilton Co., Ohio.

Mr. Roebling has an ideal country home of 88 acres, just far enough from the city to be convenient, where one may live in true country style and still have all the advantages of the city and country combined. The apiary—a picture of which I secured—is situated on one of the highest points in this section of the country, and at present consists of about 36 colonies, which are run for both comb and extracted honey. The owner of the apiary is pictured in the act of lifting a cover from a hive. The other individual—well, he did not "press the button" this time.

In the rear of the apiary, forming the background of the picture, the house stands among the trees; and near by, located at a convenient distance from the well, where one may quench his thirst with cold, sparkling water so desirable on a hot, dry, July or August day, a hammock swings in the cool shade of the trees. This is Mr. Roebling's favorite resting-place, where he reads his bee-literature, of which he has a good supply. Indeed, this is the favorite place with all, for on the hottest day it is one of the very few cool places to be found. There is always a refreshing breeze, and Mr. Roebling informs me that this breeze does away with the necessity of shade for his bees, and he has never experienced the least trouble from the heat which seems to prevail in the apiary.

The beauty of the view from among these trees is something that can not be described or pictured. Looking down directly toward the apiary the hill slopes toward a small wooded ravine, then gradually rises into green meadows and cultivated fields to nearly the same hight as the observing point. Turning slightly to the left there is a break in this beautiful panorama, and thru the blue, hazy distance one can see the Kentucky hills 20 miles away. This is a fine bee-location, but, like all others, failure is not an unknown term, this year being something little short of being a failure.

While talking bees and resting under these trees, Mr. Roebling related how he built up his present apiary from one colony—a swarm caught while at work in the fields one day. The first attempt at bee-keeping proved a failure; the bees being hived in a dry-goods box lived and prospered for a short time in one corner of the box, but the cold winter soon put an end to their existence. The following spring another swarm was captured, and this time a 10-frame Langstroth hive was purchast, and the happy owner thinking 10 frames too many in the hive, only inserted *two;* but, to his surprise, on examining them some time afterwards, he found these two frames completely filled, and the remaining space filled with combs running in every direction. This colony was the nucleus of his present apiary, and it threw off large swarms every year until recently, when it was transferred to a new hive, and the usable combs properly fitted into frames.

Mr. Roebling has a good grocery and private trade for his honey, and delights in having the best bees and apiarian implements procurable. His section and extracted honey are placed upon the market in the most up-to-date manner. He reads the best methods by the best writers, and does not fail to apply them. In fact, he is a bee-keeper who does *not* think he knows more than any other bee-keeper; has not a lot of silly notions, and does not already know more than the journals can ever teach him, and therefore feels he ought to read them. He combines the Belgian hare business with bee-keeping successfully, of which I will have something to say in another article later on.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Clipping the Wings of the Premium Queens.

DR. MILLER:—The premium queen mailed to me arrived in good health, and is safely introduced.

Please tell me the reason you clip the wings of queens you send out. I never clip the wings of my queens, and do not like them clipt. Had the season not been advanced I should have sent the queen back and requested another.

It seems to me that if the purchaser wishes the wings clipt he can do it; but who can put the wings back if he does not want them clipt?

I do not want to be crabbed or fault-finding, but really, Doctor, do you not think it doubtful policy to send out mutilated queens, unless the purchaser requests such?

MASSACHUSETTS.

ANSWER.—There is just one reason why I have gone to the extra trouble of clipping the premium queens that were sent out, and that is that the contract with the publishers of the American Bee Journal demanded it. As to its being doubtful policy, the editor can speak for himself, altho I believe on the whole it was a wise thing to do.

[See "Editorial Comments" for further reply.—ED.]

Making Bees Swarm Naturally.

Can bees be made to swarm naturally by feeding so they will rear queen-cells before they swarm at this time of the year? MISSISSIPPI.

ANSWER.—If the weather is warm enough for bees to fly freely, and they are gathering nothing from the flowers, you may hasten the swarming of a colony by feeding. But feeding will make no difference if the bees are gathering freely abroad. You may do something toward hastening swarming by giving a colony frames of sealed brood from other colonies, thus increasing its strength.

Full Sheets or Starters—Best Comb-Honey Hive—Transferring.

1. I filled a hive with full sheets of foundation, and the bees tore it and pulled it out. Would you advise me to put in full sheets, or just starters?

2. I want to use the most convenient hives for comb honey next year. My frames fit the Langstroth hive. Would you advise me to use the Langstroth hive? or what would be better?

3. Would you advise me to lift out the frames and bees and put them in new hives, as I want them all in hives alike? and when would be the best time to do it—this fall or in the spring? WEST VIRGINIA.

ANSWERS.—1. Full sheets are better, because they make sure of all worker-comb. But when a swarm is first hived, if you confine them upon four or five frames till they are built full, there will be very little drone-comb with starters.

2. With Langstroth frames of the regular size, 17⅝x9⅛, a change is hardly advisable.

3. If your hives now in use are good, it would hardly pay to throw them away and use new, unless there be some difference in size of the hives, which would hardly be if all frames are of the same size. The dovetailed hive is a very desirable kind, but not enough better than hives with plain joints to make it advisable to throw away a good hive of the latter kind. If frames are merely to be lifted out of one hive and put in another, it matters not whether it is done in fall or spring, only it ought not to be done after bees stop daily flights.

Troubles of a City Bee-Keeper.

1. I am trying to keep a few bees away up in the northern part of New York city, but make a poor showing, owing no doubt largely to my unskillful handling of them. I am in trouble with them, and want advice and help. I shall secure a fair crop of honey this fall if I can get the supers off of my hives. At present they are stuck so tight with bee-glue that it is hard to move them, and when I get them partly loose and raised, say an inch, I find the lower frames glued to them; that is, the top of the brood-frames glued to the bottom of the super. Now tell me what is to be done.

2. Yesterday I took off 40 pounds from one hive by taking out the sections one by one. It was the best I could do without tearing things all to pieces. Next season I am going to try rubbing castile soap over all parts liable to be glued; as the soap is of a greasy, oily nature, I have an idea it may help. Do you think it will work? N. Y.

ANSWERS.—1. You can hardly be said to "make a poor showing" if you "secure a fair crop of honey." A crop of honey is the desideratum.

Raise the super as you did before, say half an inch or an inch, blowing in a little smoke and putting a block under the super to hold it up. Now, take your screw-driver, or whatever you use as a hive-tool, and putting it between the top-bar of one of the frames and the super, gently pry down the top-bar. Do the same with all the top-bars that are glued to the super, and then you can remove the super.

2. It is at least worth trying. Vaseline has been recommended for the same purpose. With a ¼-inch space between top-bar and super there ought not to be need for much precaution.

Comb Foundation Sample Appears to be All Right.

I enclose a sample of comb foundation of the last I bought. I had no chance to find out thru the bees, owing to their not gathering any surplus since the first week in August (I got a half crop of comb honey.) Please tell me if it is made of adulterated wax, or what is wrong with it. It neither looks nor smells like any I have had before.

WISCONSIN.

ANSWER.—In looks and smell there appears nothing other than should be found in a very excellent sample of surplus foundation, and it would be a matter of great surprise if bees should make any objection to such foundation. I don't know who made it, but it is a matter of comfort to know that in this country all the reputable makers of foundation may be safely trusted to send out nothing but a pure article. Altho other countries are accustomed to point to America as the seat of all adulterations, yet in the matter of comb foundation the shoe is certainly on the other foot. Adulteration is so common in Germany that it is one of the reasons why something like 20,000 bee-keepers have foundation-presses of their own.

The Chicago Convention Picture is a fine one. It is nearly 8x10 inches in size, mounted on heavy cardboard 10x12 inches. It is, we believe, the largest group of bee-keepers ever taken in one picture. It is sent, postpaid, for 75 cents; or we can send the American Bee Journal one year and the picture—both for $1.60. It would be a nice picture to frame. We have not counted them, but think there are nearly 200 bee-keepers shown.

◆

The Premiums offered this week are well worth working for. Look at them.

✻ The Afterthought. ✻

The "Old Reliable" seen thru New and Unreliable Glasses.
By E. E. HASTY, Richards, Ohio.

VARIATIONS IN WEIGHT OF A COLONY.

That greatly longed for and despaired of thing—a cure for bad seasons—arrived at last! And will the inventor patent it? And how high will he put the price? F. W. Hall, page 573, takes a 10-pound super of sections from a hive that only weighs 70¼ ounces all told! Or are we driven to suspect (Bathos!) that where we read 70¼ ounces we must understand 70¼ *pounds?*

To assist Mr. H. in a puzzle which seems to trouble him, I will remark that a hive gets lighter in the forenoon from at least four causes. First, drying out of dew or rain in the wood of the hive—often much more than one would suspect, but perhaps insignificant in this case. Second, exhalations from the bodies of the bees and brood. I think there is a variation as to how much of this remains inside the hive at night, and gets outside during the fornoon, and how much passes out immediately at night. This loss may be expected to be large when much brood is present, and small when there is little brood. Third, evaporation of nectar—mostly fanned outside at night, except when the gathering is very large; but some of the vapor may remain inside as a dampening of inner surfaces. The fourth cause, of course, is the weight of the bees that go out to the fields—a very variable element. Also, sometimes, nectar comes in in the forenoon, and not in the afternoon, and sometimes *vice versa*. I think these causes properly adjusted will account for most of the eccentricities of weight in such tables.

WHIMSICAL ABOUT EATING HONEY.

That lady on page 563, I guess her inability to eat honey was simply a whim—supported perhaps by a little nerve action, as when we can't "go" something because we once took it with pills. Her five days of swollen face kept her thinking about bees and honey, and tasting of the latter, until the rather immaterial barriers disappeared, and the real facts came to the surface—and hitherto unknown kinks of chemistry need not be called in.

COLOR OF CARNIOLAN BEES.

And it's a *rusty* gray instead of a steel gray that the Carniolan bees are. Strange, how long it took this fact to get to the surface. Doctors disagree of course, but the way our bee-doctors disagree on the color of the Carniolans seems to be a rather extreme case. Chance for our skeptics to say, Is there any such thing as the Carniolan, except as A B and C pop the name onto something they want to float? Page 564.

REARING QUEENS UPSTAIRS.

The scheme of rearing queens upstairs, while a queen presides as usual below, is still mooted, I believe; and those who still adhere to it might do well to meditate on what the veteran breeder Alley says on page 565—most of such queens are short-lived and worthless, except in the swarming season, when good queens can be reared almost any way. The thing is rather important. To win a little convenience at the cost of a general damaging of queens would be a sorry bargain. To be sure, Mr. Alley is not above being mistaken; but the probabilities of the thing rather seem to lie his way. Should we expect bees that already have a good queen, and no assignable reason for wanting another, to do their *best* in that line? But I should say, look a little out—yes, look a big out—for bees that will build queen-cells by the thousand. There is such a thing in nature as degeneration.

LONG-TONGUED BEES AND SHORT-TUBED CLOVER.

I will not try for a complete review of the stirring paper of Dr. Miller on long-tongued bees and short-tubed clovers, which begins on page 566, but merely murmur a little at two of the dominant ideas. One is that we *must* succeed if the effort is pusht years enough. Suppose now that there was a proposition to increase the size of the elephant. Would it be true that with thousands of years enough (or millions) man must succeed in breeding an elephant a hundred feet high? No. Long before that size was reacht the point would be reacht where flesh and blood and bone could not endure the pressures that would occur. I think it not a rare thing, but a common one, for nature's developments to be already quite near in some vital element (very likely an unseen and unsuspected point), but quite near to the point beyond which development can not be pusht for physical reasons. I think this so frequent that the phrase, "We must succeed," ought not to be used. The other thing is a sort of air that "one man is as good as another, sure," in work of this kind. How is it in looking for a queen? One pair of eyes will see her very quickly. A dozen other pairs will only see a curious, moving mass of bees, all looking just alike. Should you "commandeer" a hundred men at random, and order them at tongue-clover work, three or four out of the hundred would *accomplish* more than all the rest.

FINE-GRAIN AND COARSE-GRAIN GRANULATION.

One of the valuable remarks in the valuable paper of Prof. Cook, page 566, is the surmise that fine grain and coarse grain in granulated honey mainly depends (as in other crystallization) on the rapidity of the process; the more quickly the thing is over with the finer the grain. I would add that the coarsest crystals of all seem to be at the bottom and sides of thin honey, and in unsealed cells where only part granulates. In both these situations the process can go on for weeks. Still, rapidity alone may not determine all.

HONEY ON COMMISSION OR OTHERWISE.

It seemed to me that Mr. Doolittle hit almost too hard at the article of W. F. Marks, page 567; but the plan of Mr. Marks, to try stopping entirely the sale of honey by commission, can not be tried, not even if the trial seemed desirable to the most of us. Obviously it would require something like unanimity, and that *couldn't* be secured.

SQUIRT-GUN FEEDING OF BEES.

To have the bottom tight, and everything just right, and then with a squirt-gun feed the whole apiary in a few minutes just at dusk—well, it does seem to be just the poetry of stimulative feeding. The trouble 'pears to be that the practice of stimulative feeding is losing currency. Get a bigger crop if you use a pop-gun instead. (Patent applied for on stimulative pop-gun.) Page 574.

A MUCH-RETA(I)LED STORY.

So they held the tails of the oxen that mogged home to whistle music, carrying a swarm of bees as an outer coat of fur—but our editor, he wouldn't hold the *tales* of the plowman and the St. Louis Republic. Page 578.

MINIATURE TUMBLERS FOR HONEY SAMPLES.

Possibly C. P. Dadant may have been too fast in saying that we have no use for the miniature tumbler of honey holding a little over an ounce, and selling for three cents—the tumbler itself costing only a cent. All our packages are to eat at *home*, while this seems to be an eat-on-the-spot sort of device, a novel rival for candy. May it not act as a missionary to increase the customers for honey? May it not (properly pusht) in some great crowds, carry off a big lot of honey without lessening ordinary sales in the least, but the contrary? And American glass men are capable of devising a tiny tumbler that would be valued as a toy when empty. Page 582.

SHADE-BOARDS OF TIN AND SHINGLES.

Shade-board covered with tin, and let the roof leak *if it can*.—Doolittle. Shade-board made of second-hand shingles and a slat—to cost almost nothing—and a reliable roof.—Hutchinson. You pays your money ($1.00 per year) and you takes your choice. Page 583.

FLIES AND BUGS ON BASSWOOD.

Quite a problem when flies and bugs visit basswood and bees do not. Possibly the insects seen could get some provender by *gnawing* at the nectar-glands, while bees do not come till there is nectar sufficient for pumping. Page 586.

LATE YELLOW SWEET CLOVER.

That's quite a bit of news that Aaron Snyder contributes, page 589—*two* yellow kinds of sweet clover, one of them late, and just as big as the white kind. But as it's not beauty nor variety that we're after, the late yellow hardly shows any reason why we should desire it, as I see—that is, provided we have the white kind already.

A Close and Exciting Election!

Which will be Elected?
How many Votes will he Get?

* * *

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McKinley's popular vote in 1896	7,107,304
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Langstroth on... The Honey-Bee

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That will just "roll" in the honey, try **Moore's Strain of Italians**, the result of 21 years of careful breeding. They have become noted for honey-gathering, whiteness of cappings, etc., thruout the United States and Canada.

Warranted Queens, 75c each; 6 for $4 00; 12 for $7.00. Select warranted, $1.00 each; 6 for $5.00; 12 for $9.00. Strong 3-frame Nucleus with warranted Queen, $2.50. Safe arrival and satisfaction guaranteed. Circular free.

27Dtf **J. P. MOORE** (lock box 1) **Morgan, Ky.**

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Italian Queens!

reared from the best 3-band honey-gatherers, by the Doolittle method. Untested, 45 cents each; 1 dozen, $4.50. Tested, 75 cents each; 2-frame Nucleus, with tested queen, $1.75 each. No disease. Safe arrival.

W. J. FOREHAND,
19D12t **FORT DEPOSIT, ALA.**

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Rocky Mountain Bee-Plant Seed!

(*Cleome integrifolia.*)

...FREE AS A PREMIUM...

The A B C of Bee-Culture says of it: "This is a beautiful plant for the flower-garden, to say nothing of the honey it produces. It grows from two to three feet in hight and bears large, clusters of bright pink flowers. It grows naturally on the Rocky Mountains, and in Colorado, where it is said to furnish large quantities of honey."

We have a few pounds of this Cleome seed, and offer to mail a ¼-pound package as a premium for sending us ONE NEW subscriber to the American Bee Journal, with $1.00; or ¼ pound by mail for 40 cents.

GEORGE W. YORK & CO.
118 Michigan St. CHICAGO ILL.

GENERAL ITEMS

Red Clover Queens—A Caution.

I wish to say something about red-clover queens. I have kept bees some 40 years, and in that time I have known the bees to work on red clover 3 times—this fall, and twice before, about 10 years apart; but they gathered no surplus. I think they only do it when all other flowers fail to produce nectar. I never saw bees work any stronger than they did on the clover. I have seen as high as 20 to a rod square, doing their best to gather nectar, and no doubt but they reacht some, but not to gather any surplus. In my opinion it is not right to hold out an idea that such a queen has been found, when next summer will disprove it. D. C. WILSON.

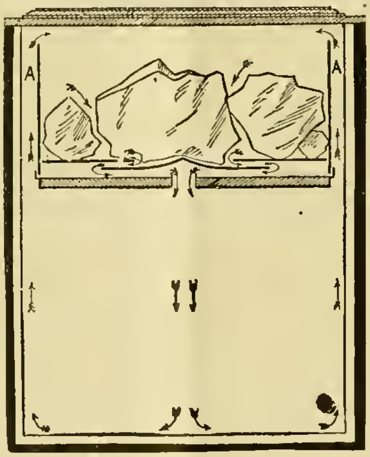
Linn Co., Iowa, Sept. 9.

Wintering Bees—Refrigerator System.

Having had inquiry regarding my method of wintering bees on the summer stands, and requesting a full description of same, I can only say as I have already written:

Arrange your hives for wintering like a refrigerator—that is, with a dry-air circulation. This will carry up all moisture from the brood-nest, and when any particles of matter or smells reach the cold-air chamber above the bees, this moisture is condenst, all vapor and odor is removed, and only the pure dry air is returned to the brood-chamber.

Trusting that most bee-keepers have used refrigerators during this last summer, and in order that all may be prepared fully to understand this method. I enclose cut of the inside of a refrigerator, showing the air circulation—the cold air descends, and the hot air ascends. Open the door of the provision chamber, place your hand quickly under the ice-box, and you will feel the downward current, but it soon ceases, because the door is open. The same would occur in a bee-hive if there was a large opening at the bottom, as many have recommended. By having the hive nearly closed the circulation will continue strong enough to carry the



Refrigerator—Showing Air-Currents.

DITTMER'S FOUNDATION Wholesale and Retail

This foundation is made by an absolutely non-dipping process, thereby producing a perfectly clear and pliable foundation that retains the odor and color of beeswax, and is free from dirt.

Working wax into foundation for cash, a specialty. Write for samples and prices.

A full line of Supplies at the very lowest prices, and in any quantity. Best quality and prompt shipment. Send for large, illustrated catalog.

GUS. DITTMER, Augusta, Wis.
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Best on Earth

What? **Our New Champion Winter-Cases.** And to introduce them thruout the United States and Canada we will sell them at a liberal discount until Oct 15, 1900. Send for quotations. We are also headquarters for the NO-DRIP SHIPPING-CASES.

R. H. SCHMIDT & CO
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YOU WANT OUR BOOK.
It has blanks for a year's egg record and describes the **HUMPHREY** Green Bone and Vegetable **CUTTER** guaranteed to cut more bone in less time and with less labor than any other cutter. The book is Free. Write **Humphrey & Sons, Box 56 Joliet, Ills.**

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Wanted LIGHT AMBER **Extracted Honey** in sixty-pound cans. Send sample and price. **DANIEL DANIELSEN,**
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For Sale APIARY IN Basswood Belt in WISCONSIN. For particulars address
M. H. WRIGHT, Greenwood, Clark Co., Wis.
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BEES QUEENS
Smokers, Sections, Comb Foundation And all Apiarian Supplies cheap. Send for FREE Catalogue. E. T. FLANAGAN, Belleville, Ill.

FOR HOMESEEKERS.

The Chicago, Milwaukee & St. Paul R'y will sell regular Homeseekers' Excursion tickets to all points in South Dakota, at one fare plus $2.00 for the round trip, on Sept. 18 and Oct. 2, 1900. This will enable parties to visit the Corn Belt Exposition to be held in Mitchell, S. D., Sept. 26 to Oct. 4, 1900, inclusive. This exposition is held to demonstrate the great agricultural resources, wealth and possibilities of this thriving State. The exposition is held in a gorgeously decorated corn-palace, which for beauty can hardly be excelled anywhere by a building of a temporary nature. There are thousands of acres of cheap lands left in South Dakota that will, under the present conditions in that State rapidly increase in price, and the holding of this corn-palace with its many attractions, that both amuse and instruct, should be an opportunity that all land and investment seekers should embrace.

For further information apply to any ticket agent of the Chicago, Milwaukee & St. Paul R'y, or address Geo. H. Heafford, General Passenger Agent, Chicago. 39A3t

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moisture above. This is no invention of mine—only its adaptation to bee-hives. This system of dry-air circulation is old, is scientifically correct, simple, effective and purifying. The air currents will take their natural courses unless obstructed by having a large opening at the bottom of the hive.

With this arrangement the empty section-holder filled with a basket or pillow of absorbents—chaff, shavings or leaves (leaves preferred)—represents the ice-box of a refrigerator. This is the cold-air chamber and is not protected from the outside cold weather. The hive proper is fully protected and made warm; this contains the bees and the brood-nest, represents the provision-chamber of a refrigerator, and is arranged so that there will be a slight circulation—not enough perceptibly to cool this apartment—but sufficient to carry off all moisture.

D. H. Metcalf.
Calhoun Co., Mich.

Bees Didn't Do Well.

Bees did not do very well this season. While I was away from home I lost two swarms. Honey is scarce.

Charles Lehnus.
Kankakee Co., Ill., Oct. 1.

A Report—Dry and Hot.

Three years ago I had a nice lot of honey, but have had none since. I got only 35 one-pound boxes from two colonies this season, and that they gathered from buckwheat the last week in August and first of September. I took it off last week. The old colony produced 25 pounds and the spring colony 10 pounds. I did not let the old colony swarm, but killed the young queen, and, having a lot of brood-frames, placed them in another hive, and put one on top of the other. I lookt at

The Bee-Keeper's Guide
Or, Manual of the Apiary,
—BY—
PROF. A. J. COOK.

460 Pages—16th (1899) Edition—18th Thousand—$1.25 postpaid.

A description of the book here is quite unnecessary—it is simply the most complete scientific and practical bee-book publisht to-day. Fully illustrated, and all written in the most fascinating style. The author is also too well-known to the whole bee-world to require any introduction. No bee-keeper is fully equipt, or his library complete, without THE BEE-KEEPERS' GUIDE.

This 16th and latest edition of Prof. Cook's magnificent book of 460 pages, in neat and substantial cloth binding, we propose to GIVE AWAY to our present subscribers, for the work of getting NEW subscribers for the American Bee Journal.

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Send us TWO NEW SUBSCRIBERS to the Bee Journal (with $2.00), and we will mail you a copy of Prof. Cook's book FREE as a premium. Prof. Cook's book alone sent for $1.25, or we club it with the Bee Journal for a year—both for only $1.75. But surely anybody can get only TWO NEW SUBSCRIBERS to the Bee Journal for a year, and thus get the book as a premium. Let every body try for it. Will YOU have one?

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Golden Italian Queens.

By return mail, 75 cents each; $7 50 per dozen. They pleased every customer this year; well, why not? They are the prettiest, gentlest and best hustlers you ever saw.

—Muth's—
Square Glass Honey-Jars.

Just the package for home trade. Full line of ROOT'S GOODS at their prices.

HONEY.

Have you any FANCY WHITE comb or extracted honey for sale? Also beeswax wanted.

C. H. W. WEBER,
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Light Amber Comb Honey. Please mention quantity you have, how put up, from what flowers gathered, and what price you ask f.o.b. Chicago.

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Wool Markets and Sheep

has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.

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STUDY EMPLOYMENT at home or traveling $3.00 to $5.00 per day guaranteed. Send for particulars at once.
The Interstate Art Co., Alverton, Pa.
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You pay for what you get in this world. You understand that. But as a business proposition we want you to try our great medicine for Indigestion, Constipation, Biliousness, Sick Headache, Insomnia, "the Blues," and like complaints—

Laxative NERVO-VITAL Tablets

We know you won't buy it, until you know something about it. The best way to get you to know how good it is, is to let you try it. That's what we do. Send Stamp for "Health" booklet, and we will send you a free sample package, that you may try it yourself. We know you will always keep it in the house, if you once try it. What fairer offer could we make? At all Druggists—10 and 25 cents.

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If, instead of sending for a sample, you send us 25c we will send you "Health" booklet, a 25c box and a handsome gold stick-pin, set with emerald, ruby or pearl, warranted to be worth double the money. Order by number. This is an extra introductory offer. Only one pin to one person. If unsatisfactory, money returned. Send now while the offer is good.

MODERN REMEDY COMPANY, KEWANEE, ILLINOIS.

[*This company will do exactly as it promises.—Editors.*]

SPECIAL NOTICE!

Last winter's cut of basswood is the whitest it has been for many seasons. We are now making sections out of this new stock and therefore are in a position to furnish you with the very finest quality in the market.

LEWIS WHITE-POLISHT SECTIONS

Are perfect in workmanship and color.

Orders shipt immediately upon receipt. A complete line of everything needed in the apiary. Five different styles of Bee-Hives.

Lewis Foundation Fastener simplest and best machine for the purpose. Price, ONE DOLLAR, without Lamp.

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We Are Importers and Breeders of Belgian Hares. Our stud is led by Wantage Fox, (score 96); Champion Duke of Cheshire, (winner 13 First and Gold medal); Buttercup (score 96). We have an unusually good lot of youngsters. For prices, etc., address our Chicago office.

CALIFORNIA BELGIAN HARE ASSOCIATION,
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26 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 26 cents a pound—CASH—for best yellow, upon its receipt, or 28 cents in trade. Impure wax not taken at any price. Address as follows, very plainly,

GEORGE W. YORK & CO., 118 Michigan St., CHICAGO.

"The Prohibition Hand-Book and Voter's Manual," Size, 5x7 Inches; 50 Pages.

It contains Platform, Sketches, Pictures and Letters of Acceptance of Candidates and much valuable Statistical matter. Full of Facts. An Argument Settler. Pass them around. Price, 10c per copy, postpaid; $1.00 per dozen, postpaid. Send your order at once to

ALONZO E. WILSON, Room 823—153 La Salle St., Chicago, Ill.

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Yellow Sweet Clover Seed

WE HAVE IT AT LAST!

We have finally succeeded in getting a SMALL quantity of the seed of the YELLOW variety of sweet clover. This kind blooms from two to four weeks earlier than the common or white variety of sweet clover. It also grows much shorter, only about two feet in hight. It is as much visited by the bees as the white, and usually comes into bloom ahead of white clover and basswood. We offer the seed as a premium

A QUARTER POUND FOR SENDING ONE NEW SUBSCRIPTION.

So long as it lasts, we will mail a quarter pound of the seed to a regular paid-up subscriber who sends us ONE NEW subscriber for the American Bee Journal one year, with $1.00; or ¼ pound by mail for 30 cents.

We have been trying for years to secure this seed, and finally succeeded in getting it. It is new seed, gathered last season by an old personal friend of ours, so we know it is all right. But we have only a small supply. When nearly out we will mention it.

GEORGE W. YORK & CO.,
118 Michigan St., - CHICAGO, ILL.

PATENT WIRED COMB FOUNDATION
Has no Sag in Brood-Frames.

Thin Flat-Bottom Foundation
Has no Fishbone in the Surplus Honey.
Being the cleanest is usually workt the quickest of any foundation made.

J. A. VAN DEUSEN,
Sole Manufacturer,
Sprout Brook, Montgomery Co., N. Y.

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BEE-SUPPLIES!

☞Root's Goods at Root's Prices☜

Pouder's Honey-Jars and everything used by bee-keepers. Prompt Service—low freight rate. Catalog free. WALTER S. POUDER,
512 Mass. Ave., Indianapolis, Ind.

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Belgian Hare Guide AND DIRECTORY OF BREEDERS. Price 25c
Inland Poultry Journal Co., Indianapolis, Ind.

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them before putting on the super and found that they had filled both brood-chambers with brood and honey.

For a section of 10 miles square we have had the driest and hottest weather ever known. I had a fine lot of sweet clover but it all dried up, and being along the pasture-field the cattle got at it and stript it. There are a few blossoms coming out now, but being dry there is nothing for the bees to gather.

We have had but two good showers in 10 weeks, and the springs are all getting very low. We will have no potatoes, cabbage, or garden stuff; there will be a few tomatoes, but the crop will be very small. Henry C. Moyle.

Hunterdon Co., N. J., Sept. 27.

Fall Crop a Failure.

The fall crop of honey here is a failure, and I have disposed of my spring crop in the home market at 15 cents per pound for comb honey. We secured only about half a crop, which was 35 pounds to the colony.

W. L. McGhee.

Jackson Co., Ohio, Sept. 29.

BEEDOM BOILED DOWN

Bees' Tongues and Red Clover.

I have felt a good deal of regret that so much pains have been taken to breed for color with so few far more valuable points or traits of character. I have sometimes thought that the National Bee-Keepers' Association could not do anything more helpful to American bee-keepers than to pass a resolution something like this:

> Resolved, That we look with regret upon the efforts to breed high-colored bees, and deem three full bands of yellow on Italian-worker bees as much color as necessary or desirable.

Such a resolution would at least let the younger bee-keepers know what they thought of color, and establish a standard the same as the rules for grading honey, and at the same time give queen-breeders an opportunity to turn their attention to something of more value than color. The Ethiopian may not be able to change his skin, nor the leopard his spots; but we can all see how the American queen-breeder can change the color of a breed of bees. A few careful, thoughtful men have largely increast the production of honey by selecting and breeding from the strongest and most industrious colonies, and we have at least one well-authenticated instance where swarming has been reduced a half. Now, if swarming can be reduced a half by careful breeding in a few years, it can be reduced three-fourths and nine-tenths with the same care, and probably even more than that.

If the color of bees can be changed, their industry increast, and their swarming instincts reduced a half, with a few years of careful attention to breeding, is there any reason to doubt that bees can be produced with tongues sufficiently long to reach the honey of red clover? All that is needed

Sharples Cream Separators: Profitable Dairying

is to breed with this object in view. The Michigan Experiment Station has reported some very interesting facts in this connection, showing that they have now a strain of Italian bees whose tongues are more than one and a third times the length of those of black bees, and one and a fifth times the length of the average Italian bees.

But we must not be content with simply increasing the length of the tongues of our bees. We must also decrease the length of the corolla of the red-clover blossom. And here is a nice job for some bright boy, and there will be money in it, too. Go to the fields and watch until you find plants of red clover that the bees work on freely, then mark and secure the seed, and sow and cross-fertilize by hand, and in a few years a variety of clover will be produced with blossoms not half the average length of those varieties now in general use. As soon as such a variety is produced, seed can be grown for market when the bee-keepers will fairly tumble over each other to get hold of it. But as it will be many years before such a variety will come into general use, let the good work go on in lengthening the tongue of our bees.

All bee-keepers may do more or less by keeping a close watch for colonies that work on red clover, and breed from the queens of such for a series of years. There is little doubt in my mind that much might be done in this line. I shall be surprised if we do not find that those colonies that work best on white clover and basswood are not the same that take most kindly to red clover.—J. E. CRANE, in Gleanings in Bee-Culture.

The Emerson Binder

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

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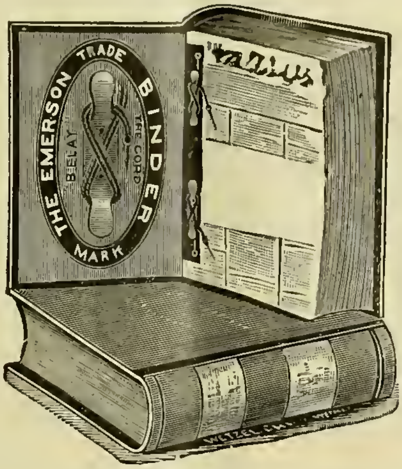

THE EMERSON TRADE BINDER MARK
BELAY
THE CORD

Illinois.—The annual meeting of the Northern Illinois Bee-Keepers' Association, will be held in the Court House in Freeport, Ill., on Tuesday and Wednesday, Oct. 16 and 17, 1900. All are cordially invited to attend.

B. KENNEDY, Sec.
R. F. D. No. 5, Rockford, Ill.

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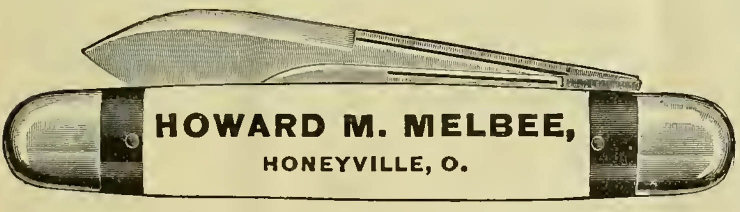
The Novelty Pocket-Knife.

Your Name and Address on one side—Three Bees on the other side.



[THIS CUT IS THE FULL SIZE OF THE KNIFE.]

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and in case of death, your relatives will at once be notified of the accident.

How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

How to Get this Valuable Knife.—We send it postpaid for $1 10, or give it as a Premium to the one sending us THREE NEW SUBSCRIBERS to the Bee Journal (with $3.00.) We will club the Novelty Knife and the Bee Journal for one year, both for $1.90.

GEORGE W. YORK & CO., 118 Mich. St., Chicago, Ill.

☞Please allow about two weeks for your knife order to be filled.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Sept. 27.—Choice to fancy comb is selling at 15@16c per pound; good to No. 1, 14@15c; No. 2, white, 12@13c; amber, 11@12c; off grades, including buckwheat, from 9@10c. Extracted white, 7¼@8c; ambers, 7@7½c; dark and off grades, 6½@7c. Beeswax, 28c.

The market is strong, and sales are prompt of nearly all arrivals. R. A. BURNETT & CO.

KANSAS CITY, Sept. 13.—Fancy white comb honey, 14@15c; No. 1 white, 13½@14c; No. 1 amber, 12c; dark, 11@11½c. Market firm, demand good, receipts light. Beeswax, 25@30c.

W. R. CROMWELL PRODUCE CO.,
Successors to C. C. Clemons & Co.

BUFFALO, Sept. 28.—Fancy one-pound comb very light receipt and much wanted at 16 cents mostly, occasionally 17c; very light supply; poor also selling 14@8c as grades. Extracted, no stock here, and not in g eat demand at any time in Buffalo. Fancy beeswax, 30@33c; dark, etc., 24@28c. BATTERSON & CO.

NEW YORK, Sept. 28.—Comb honey in good demand for all grades at 15@16c for fancy white; 13@14c for No.1 white; 12c for amber and 10@11c buckwheat. Extracted in fair demand at 7@7½c for white, 6½@7c for light amber; 6c amber, and 5½c dark. Beeswax quiet and declining; selling at from 27@28c.

HILDRETH & SEGELKEN.

BOSTON, Sept. 21.—Our honey market is very strong at the following prices, with supplies very light: Fancy one-pound cartons, 17c; A No. 1, 15@16c; No. 1, 15c; No. 2, 12@13c. Extracted from 7½@8½ cents, according to quality.

Can see no reason why these prices should not be well maintained right thru the season.

BLAKE, SCOTT & LEE,

CINCINNATI, Sept. 21.—The demand for fancy comb honey is good and finds ready sale at 16@16½c; No. 1, 15c. The demand for extracted honey at present is slow and offer same by the barrel as follows: White clover, 8½@9c; Southern, 6½@7½c; Florida, 7@8 cents, according to quality. Beeswax, 27c.

The above are MY SELLING PRICES. I do not handle any honey on commission, but pay spot cash on delivery. C. H. W. WEBER.

ALBANY, N. Y., Sept. 22.—Demand good, now at firm prices; White comb, 15@16c; mixt white, 13@15c; amber, 12@13c; buckwheat, 11@12c. Extracted, white, 8@9c; mixt white, 8@8½c; amber, 7@7½c; buckwheat, 6@6½c. H. R. WRIGHT.

DETROIT, Oct. 6.—Fancy white comb, 15@16c; darker grades, 11@12c. Extracted, white, 8@9c; amber, 5@6c. Beeswax, 26@27c.

No demand at present for extracted.

M. H. HUNT & SON.

SAN FRANCISCO, Sept. 26.—White comb, 13@14 cents; amber, 11½@12½c; dark, 8@9c. Extracted, white, 7½@8c; light amber 6¾@7¼c; amber, 5½@6½c. Beeswax, 26@28c.

Market presents a healthy tone, being lightly stockt with all descriptions, with inquiry not lacking, even for most common qualities, altho choice to select naturally commands the most attention.

WANTED—HONEY AND BEESWAX.

We have a tremendous and growing trade in this line, and would like to hear from all who have such goods to sell in any part of the country, with quality, description, and lowest cash price. THOS. C. STANLEY & SON, Fairfield, Ill.

WANTED COMB HONEY AND EXTRACTED HONEY. Will buy your honey, no matter what quantity. Mail sample with your price expected delivered in Cincinnati. I pay cash on delivery. C. H W. WEBER, 2146 Central Ave., CINCINNATI, OHIO.

Wanted To Buy Honey

What have you to offer and at what price?

33Atf ED WILKINSON, Wilton, Wis.

Please mention Bee Journal when writing.

Wanted COMB AND EXTRACTED HONEY

State price, kind and quantity, also rate of freight to Boston. BLAKE, SCOTT & LEE,
31 and 33 Commercial Street, BOSTON, MASS.

Please mention Bee Journal when writing.

We have a Large Stock on hand and can ship promptly.

SEND US YOUR ORDERS FOR

Hives, Extractors

OR ANYTHING YOU WANT IN THE BEE-KEEPING LINE.

WE MAKE ONLY THE BEST.

Our Falcon Sections and New Process Foundation are ahead of everything, and cost no more than other makes. New Catalog and copy of THE AMERICAN BEE-KEEPER free. Address,

THE W. T. FALCONER MFG. CO.,
JAMESTOWN, N. Y.

☞ W. M. GERRISH, East Notingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.

Please mention Bee Journal when writing.

SWEET CLOVER

And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white)	60c	$1.00	$2.25	$4.00
Crimson Clover	70c	1.20	2.75	5.00
Alsike Clover	80c	1.50	3.50	6.50
White Clover	90c	1.70	3.75	6.50
Alfalfa Clover	80c	1.40	3.25	6.00

Prices subject to market changes.
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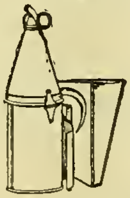

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AMERICAN BEE JOURNAL

OUR TOIL DOTH SWEETEN OTHERS

GEORGE W. YORK,
Editor.

CHICAGO, ILL., OCTOBER 18, 1900.

FORTIETH YEAR.
No 42.

WEEKLY

REV. E. T. ABBOTT, of Missouri,
Director of the National Bee-Keepers' Association.

THE AMERICAN BEE JOURNAL.

PUBLISHT WEEKLY BY

GEORGE W. YORK & Co.

118 Michigan St., Chicago, Ill.

[Entered at the Post-Office at Chicago as Second-Class Mail-Matter.]

IMPORTANT NOTICES:

The Subscription Price of this journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50c a year extra for postage. Sample copy free.

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Reformed Spelling.—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

The Weekly Budget

Mr. H. M. Carr, of Thomas Co., Ga., writes us Oct. 8th, as follows:

"This is my first year with the excellent American Bee Journal, and I am well pleased with it. As one of the common readers I wish to say I like your short spelling. The 'new dress' pleases me, too."

* * * *

Mr. W. P. Root, otherwise "Stenog," to whom we referred on page 628, offers the following defense:

Mr. York:—In your issue for this week is a criticism on me which I feel ought to be answered in your columns. You refer to the expression "red clover queen" as being inconsistent with my claim that it should be "red-clover queen." The fact is, the hyphen was there in the first place, but, like Zaccheus of old, it was short of stature, and hence made no impression. When an adjective stands before a noun, and the two words become an adjective in turn, they should be united; as left-hand figure, long-eared rabbit. This rule is never questioned, and is universally observed by proof-readers. Any system of punctuation that makes no distinction between twenty-eight frame hives and twenty eight-frame hives is not worthy of the name. I call for a criticism of rules, and not a mere oversight on my part in their proper application. Sweet clover stems means that the stems are sweet, and nothing else. Of course, the intelligent reader may not be misled; but suppose you really mean to speak of clover stems that are sweet; then that reader would be misled, supposing you meant sweet-clover stems. Disregard of this principle is indefensible in toto. I leave it to Mr. Hasty. W. P. Root.

Medina Co., Ohio, Oct. 6.

If Mr. Root hadn't left it to Mr. Hasty, we would say that not a single one of our readers would be misled by the omission of a hyphen between the two words "sweet clover," no matter how or when they are used. No one would ever think of the stems being red, when he reads about "red clover stems;" nor would any one be misled about thinking of an "eared rabbit", being "long" in body when he reads of a "long eared rabbit." If any one desired to say that the stems of a certain kind of red clover are red he would likely say it in that way.

Of course, we are willing to admit that the hyphen may properly be used in the illustrations mentioned; but we are equally free to admit that the editors and proof-readers are the ones who should see to it that all contributions appear in print in correct English—as to words and punctuation—and that such matters ought not to be referred to in public print except in general newspapers, or in school journals or books on the subject. We believe much harm has been done already from what has been said in bee-papers on this subject. We only hope that none of *our* readers or contributors will ever feel that they can't write the English language correctly enough to suit us. We are willing to be responsible for the correct appearance in print of anything sent to us for the American Bee Journal, so no one need fear writing to us in the best manner he knows, and let it go at that.

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AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

40th YEAR. CHICAGO, ILL., OCTOBER 18, 1900. No. 42.

* Editorial Comments. *

Comparison of Races of Bees, or at least three of them, is given in the American Bee-Keeper by F. Greiner, and he ranges them as follows:

In the order of general preference among bee-keepers, Italians stand at the head, Carniolans second, blacks last.

In the order of beauty: Italians, Carniolans, blacks.

As to gentleness: Carniolans, Italians, blacks.

As to prolificness: Carniolans, Italians, blacks.

By properly manipulating the brood-nest one can get an Italian queen to lay as many eggs as a Carniolan; but left to themselves the Italians crowd the brood-nest with honey, preventing the queen from doing her best at laying.

Carniolans are most given to swarming, Italians least.

As to whiteness in capping honey, the order is: Carniolans, blacks, Italians. Italians are worse than the others in gathering propolis and in storing pollen. In conclusion Mr. Greiner says:

> The special features which make the Italian bee a favorite with the bee-keepers generally are: 1, their beauty; 2, their manner of clinging to the combs while being handled, making it easy to find queens; 3, their gentleness; 4, their greater vim and determination to keep their combs free from wax-moths, and protecting their hives better generally. Along all these lines they do excel the other races by a long way.

How Many Acres Will Support 100 Colonies? is a question sure to be askt sooner or later by every bee-keeper who desires to engage in bee-keeping to any considerable extent. Just as surely as he asks the question is he likely to be disappointed in getting an answer. Those of longest experience hardly dare to venture more than the broadest kind of a guess. When a positive answer is given, it is likely to be found nothing more than a guess, and sometimes a very wild one. In the Canadian Bee Journal the unqualified statement is made that "100 acres will maintain 150 colonies." Not many would name so high a number of colonies for that amount of territory.

Speaking of the distance bees go in quest of stores, G. M. Doolittle says: "I claim they go from 3 to 6 miles from choice." Taking the average of that as 4½ miles, we would understand that any apiary on any given spot, if it contained enough bees, would gather all the nectar within 4½ miles. A circle having 4½ miles as its radius contains 40,715 acres. If 100 acres will maintain 150 colonies, then 40,715 acres will maintain 61,072. It would be a pretty large apiary that would contain 61,072 colonies!

For the sake of making some little approximation toward an answer, it may not be amiss to do some figuring. While not all might agree with Mr. Doolittle as to bees foraging as far as 3 to 6 miles from choice, probably not many would say that 1½ miles was the limit of profitable foraging. But for the moment suppose we set it at that. Neither would many say that the average locality would support more than 100 colonies in the most profitable manner. If we put 100 colonies in an apiary, and they work no farther than 1½ miles from home, it will take a little more than 45 acres to support each colony.

If we put 100 colonies in one spot, and allow 100 acres to each colony, that will make not quite 2¼ miles as the distance they will travel in quest of stores. While some might want the distance put less than 2¼ miles, there would be just as many who would say that 100 was too large a number for one apiary, so it is quite likely that if an attempt was made to average opinions, the result would not be far from saying that in the average location it takes about 100 acres to support each colony of bees.

Seasonable Reading.—There is a good deal in what S. P. Culley says in the Progressive Bee-Keeper, when he says:

> "Speaking of seasonable articles, the most seasonable time to *write* is just too late to be seasonable to *read*. One can write best while all details are fresh in mind. Keep your Progressives, file them away, and refer to them for seasonable information. Seasonable writing is as important as seasonable reading."

Only that last sentence is probably a slip, and should read, "Seasonable reading is as important as seasonable writing."

Bisulphide of Carbon is much spoken of nowadays in place of sulphur for destroying wax-worms, with the special advantage that it kills eggs as well as worms. It appears there are two kinds, the pure and the crude, the crude being perhaps the better of the two for bee-keepers. It also appears that the fumes being heavier than air, the bisulphide should be placed above rather than below the combs to be fumigated. The following extract from Farm Student's Review, copied in Gleanings in Bee-Culture, is of interest:

> This compound, when pure, forms a colorless mobile liquid having a peculiar odor, and, when taken internally, is a violent poison. As usually obtained it contains impurities in the form of other compounds of sulphur, which give it a strong and extremely offensive odor, and when inhaled soon causes death. For the purpose of destroying gophers the crude bisulphide is better and much cheaper than the pure article. Care should be taken in using it as it is both inflammable and explosive. Its efficacy depends on the fact that its vapor is heavier than air, and, when introduced into burrows, it flows like water into all the recesses. This fact should be borne in mind in using it in sloping ground, as, unless the poison is introduced at the highest opening of the burrow, a certain part of the hole will remain free from it where the animal may take refuge.

Does Climate Affect the Color of Honey?—It has been said that honey from any one honey-plant is darker in the South than in the North. C. A. Hatch, in the Progressive Bee-Keeper, says this is a mistake. In proof of the view that the hot climate makes the honey dark is the fact that alfalfa honey of Arizona is darker than that of Colorado; also the honey from the second crop of alfalfa is darker than the first crop gathered when it is cooler. But Mr. Hatch argues that if the difference in color were due to temperature, then a very hot spell should darken the honey, whereas in the same field the color is the same regardless of temperature. He asks the pertinent question whether white clover honey is darker in Kentucky than in Minnesota, or whether horsemint honey is darker in Texas than in Wisconsin. The darker color he attributes to mixture. The bees work at the same time on flowers that yield darker honey, so the second crop of alfalfa has in it enough honey from darker sources to color it.

A Boy for Bees to Cluster On is the story told in the Austrian-Hungarian Bee Journal. A bare-headed 10-year-old boy stood near by as a swarm issued. After circling about for a short time, the swarm began to settle on the head of the boy. The father took in the situation at a glance, and called to the boy, who had often watcht the operation of hiving a swarm: "Don't stir, Hans; shut your mouth and eyes, and I'll hive the swarm in a jiffy." The boy obeyed; the father drencht with water the bees that envelopt the boy's head, which he bent forward while he gently brusht the bees into a straw skep held beneath. Not a sting did the boy receive.

Developing Short-Tubed Red Clover.—Editor Root has been advocating the production of a strain of red clover with corolla-tubes so short that ordinary bees can get the nectar out of them. E. E. Hasty, a few years ago, made some effort in that direction, and tells something about the work in Gleanings in Bee-Culture. What he says is not extremely encouraging, but valuable in directing any one who may desire to take up the work. On the whole it may be easier to fit the bees to common red clover than to fit the clover to the bees. Mr. Hasty says in part:

> And what can I tell the new volunteers which will be to their profit? Perhaps not very much. I'll advise them to keep distinct in their minds the three kinds of work to be done. Call them, if you please, A work and B work and C work. The A of it is to go into the fields and select short-tubed clovers. Better take plenty of time and do lots of this, as this is likely to be the most encouraging part of it (perhaps all the encouragement you'll get). Field clovers vary greatly—vary in the line of being lots of long-tubed ones and lots of short-tubed ones, and also vary in the line of their being few and rare specimens, which can be found by long hunting, much more hopeful than the easy-found ones.
>
> Work B is the slow and tedious work of raising seedlings year after year, and *keeping them from backsliding*, as they will probably disgust you by doing, and slowly, with careful selection, getting a little shorter and shorter as the years go by. It was this work that tired me out. It is going to take a great many years. Five years, or ten, will be only a "circumstance" in it.
>
> Work C is a sort of diamond-hunting work. Most plants, besides their capacity for gradual change, show from time to time sudden and great changes in a particular seedling or a particular bud. These almost startling manifestations are called "sports." If the desired bee-clover arrives during the present generation it will be by finding and rendering permanent one of these sports. During the years I was in the work I found two sports, or plants, which I called such. One of them I lost my grip of so completely that I have nothing to show for it—couldn't be *sure* that it would ever have filled the bill anyway. The other one seemed to be pretty much all one could ask, gained at one leap—but with one lamentable shortcoming. It was about as near to being *seedless* as a plant could be without being absolutely so. I never had a dozen seeds at one time.
>
> There is also a sport which *frequently* appears in red clover, having white seeds and pure-white blossoms. I made easy progress in breeding this down to a fixt variety; but had I kept on to completion it would have been of the same use as stripes around our bees' tails, no use at all—tubes no shorter than ordinary reds.
>
> But in fussing with the white sports I think I made a *discovery* which perhaps ought to be understood and considered by all those who work in such work as this. It is, that progress tends not to go on regularly with each generation, but by regular *alternation* of generations. A little hard to describe this so a reader will catch on readily. Say you are trying to get a white variety from a white sport. First generation you raise 100 seedlings, and say 3 of them are white and 97 backslidden and red. (Think you have got a tough job before you.) Second generation, 100 seedlings pan out 50 white and only 50 backsliders. (Think you are getting on swimmingly.) Third generation you find 15 white to 85 backsliders. (Half inclined to give the thing up as impossible.) Fourth generation, however, pans out 55 white to 45 reds. And so it goes on, with regular oscillation back and forth with each generation, but on the whole manifestly getting ahead. I have come to feel that something like this affects nearly all work of the kind with seedlings.

Convention Proceedings.

Report of the Proceedings of the 31st Annual Convention of the National Bee-Keepers' Association, held at Chicago, Ill., Aug. 28, 29 and 30, 1900.

BY DR. A. B. MASON, SEC.

(Continued from page 646.)

We have the question-box, of which Mr. R. L. Taylor has charge, and will introduce it now.

Mr. Taylor—Any one who desires to disagree or to make any remark will have the privilege.

QUES.—Are the best imported Italian bees superior to home-bred Italians for honey-gathering? Are the best American-Italian bees superior to imported stock for honey-gathering?

Mr. Taylor—No. Don't be afraid of offending me, if you have anything to say.

QUES.—What does the cocoon of a larva look like?

Mr. Taylor—It is a very fine, gauzy substance, shape of the cell. If you can get hold of it properly you can pull it out and it will retain its shape; it is a very fine, semi-transparent substance.

QUES.—Can not larvæ be transferred to cups with a quill tooth-pick successfully?

Mr. Taylor—I don't know how they transfer them. I never tried to transfer them; perhaps some one here has done it, but I should not think a tooth-pick would be apt to get the cocoons out in good shape.

W. J. Lawrence—I have transferred a good many larvæ with a quill, not a tooth-pick. The quill is formed something like a tooth-pick, a little bit duller, and narrow at the end, perhaps 1-16 or 1-32 of an inch; bend that over so it comes down about ¼ inch; you can see the larva readily, and put this right under and take it out.

Mr. Taylor—That is the answer to the question. I think I read this wrong—at least I understood it wrongly. I took it that it was the transferring of the cocoon. The larva can be transferred very readily with a tooth-pick.

QUES.—Should the average honey-producer try to rear the bulk of his queens, or would it be better and cheaper for him to buy them when the price is lowest, in dozen lots, of good breeders?

Mr. Taylor—Rear your own queens; it doesn't pay to buy them, except perhaps now and then one for breeding purposes when you know you can get a good one. You can rear just as good queens as you can buy—no question about it. I have bought $6 queens, and queens that my bees have reared under the swarming-impulse were just as good.

QUES.—Should a large honey-producer engage in raising Belgian hares, poultry or fruit, or some other side line? If not, why not?

Mr. Taylor—He should if he wants to.

QUES.—Why do bees make honey when dark bees of the same stock make dark honey?

Mr. Taylor—Why, they don't.

Dr. Mason—I don't believe the one who askt the question askt it as he wisht to have it askt. I presume it is the same one who askt me this morning, Why is it that one colony of bees owned by one person gathers white honey while another colony of bees owned by another person a block away gathers dark honey?

Mr. Taylor—They get the honey from different sources, that is all there is about it; bees don't make honey, they gather it.

Ques.—Can a bee-keeper afford to take time to sit down while working over a hive?

Mr. Taylor—He can't afford to stand up; he can't, unless he has a cast-iron hinge in his back. If he has the hive raised up it would be all right to stand up; but I have found it dangerous to stand up if you have to stoop.

Ques.—Can gloves be worn to advantage by a practical bee-keeper in the handling of his bees?

Mr. Taylor—No; you can take the sting out quicker than you can put on your gloves.

Dr. Mason—I would like to say sometimes, especially in early spring and in the fall, they can be worn with practical benefit. The gloves are easily put on, and then there are no stings to take out.

Mr. Taylor—I am giving my opinion now.

Dr. Mason—I am giving what I know.

Ques.—In gathering pollen do bees use their tongues in connection with their legs?

Mr. Taylor—I don't think they do for gathering pollen. They may moisten the pollen to some extent by the use of the tongue, but if you watch a bee as it is getting pollen, say from the blossom of the willow, it gets right into it and scrapes it, and gets it on and pokes it back and works it together with its legs. Of course, bees sometimes gather a little pollen with the tongue, but that generally gets into the honey, and I think that sometimes is the means of our bad wintering. I prophesy in a good many sections we will lose a good many bees the coming winter, for the reason that a good many fall flowers are yielding nectar, and bees are gathering a good deal of pollen from them, and a good deal of pollen will go into the honey, and the honey will not be very well evaporated.

HOW OFTEN TO EXAMINE COLONIES.

Ques.—How often should one examine the hives and bees?

Mr. Taylor—I understand the answer to that is, as often as they need it; but I suppose the questioner means how often do they need it. Well, I don't think they need it very often, if one has some experience in the handling of bees. A person who has kept bees and uses his powers of observation can tell by going thru the yard pretty nearly correct whether a hive needs any looking into. Some years I don't take out a frame from my hives to exceed one out of 20 hives; that is, at that rate, it would take me 20 years to have opened all my colonies and taken out the frames; but my hive has this advantage—it is in sections, and I can open the sections; can lift one end of one section and see what is in the center of the brood-nest without disturbing the frames. Sometimes, if your bees are not in good condition in the spring, it may be necessary to go over them two or three times, and examine those that are in bad condition, and see that they are helpt all that it is possible to help them.

Mrs. Gear—Does it do any harm to open a hive and look at the bees when they are gathering honey? Does it disturb them?

Mr. Taylor—No, I don't think it does any harm at all if the weather is sufficiently warm, if one handles them carefully. I think of the two, in the spring it is a slight advantage because it excites the bees, and they will deposit a little more honey while they are being excited than they would otherwise.

Pres. Root—I was going to say there is an opportunity presented to ask questions. Mr. Taylor is right here to answer them.

TOO MUCH SMOKE AFFECTS THE HONEY.

A. F. Morley—Does it do any harm to use much smoke? Does it injure the bees in any way, or the honey?

Mr. Taylor—If there is very much smoke used it may flavor the honey for the time, but I don't think there is any material danger in it.

Mr. Poppleton—The first year I went to Cuba I shipt a large quantity of honey—some 40,000 pounds—to Mr. Muth, of Cincinnati, for sale. It was extracted by Mr. Osburn. His method of extracting honey was to have the smoke pumpt against the frame all the time, not to shake the bees, to brush them, and use an enormous quantity of smoke. Mr. Muth afterwards told me that all the honey tasted of smoke.

TOBACCO-SMOKE FOR INTRODUCING QUEENS.

Ques. Has any one introduced queens by the use of tobacco-smoke? If so, with what success?

Mr. Taylor—I never tried it. Does any one here know anything about it? Has any one used tobacco-smoke for the purpose of introducing queens?

Dr. Mason—No one here who uses tobacco?

Mr. Taylor—Tobacco-smoke we are talking about.

Dr. Mason—It takes tobacco and a man to make tobacco-smoke.

UNITING COLONIES.

Ques.—I want to keep not more than 30 colonies. Could I cull out the poorest in excess of that by sulphuring this fall, and then keep the combs with the honey, and hive swarms on them next season?

Mr. Taylor—You could do so, but I would not.

Dr. Mason—What should be done?

Mr. Taylor—I would prefer to unite weak colonies, but would not make too strong colonies. I don't think it is best to have too strong a colony. In the fall I would manage to get rid of the old bees. Take the hive away when they are flying, or when they are gathering honey, and leave them out in the cold and then unite the younger bees, and in that way you probably will have better colonies for standing the winter. Mr. Poppleton will have something to say on that. I see he shakes his head. I would not keep honey in combs for the purpose of giving them to swarms. Your honey will more or less deteriorate, will generally become more or less candied, and, more than that, it will be carried more or less into the sections or into the honey that is being gathered in the honey season the next year, which will probably have a bad effect upon it. Save what combs you need with honey to have your bees well supplied with honey in the spring while they are breeding, before the honey season comes on, and extract the rest in the fall as soon as you can after you take it off the hive.

Mr. Poppleton—I used to practice in Iowa exactly as that question suggests. In destroying the bees I followed a little different plan from Mr. Taylor's. Instead of uniting the bees, I simply took out the brood-combs of the colonies I wanted to destroy and changed them over. This uniting was never done during the honey season. We suggested doing it while they were after honey. This uniting doesn't want to be done until after the honey is all gone.

Mr. Taylor—What I meant by their being out after honey, was not that this uniting was to be done during any gathering of surplus, but after that was closed bees still go out and gather a little.

Mr. Kretchmer—We usually set the hive in a new location; take the combs, shake all the bees off, the young bees will enter the hive and not leave it, and the old bees will return to the old location. You will be surprised at the number of young bees, or the bees you have in the spring that will unite. Young bees never fight; they will unite peaceably and remain there; then you may select the old that you desire to save. By this means of saving the young only, gives good, strong colonies for spring use, separating the old bees from the young.

Mr. Taylor—The plan Mr. Kretchmer suggests is substantially the one that I mentioned.

FUMIGATING COMBS.

Ques.—What is the best method of sulphuring?

Mr. Taylor—If you must sulphur, I think the best way would be to put an empty hive on top of the open hive, and set in the empty hive an iron vessel with a little sulphur in it: then put in a piece of red-hot iron with the sulphur, and close your hive, and the sulphur will do the rest.

Dr. Mason—I had occasion to do a little sulphuring recently. I disposed of some of my bees, and had a large number of super-combs for use, and I noticed the other day, just before I came to this convention, that the worms were getting into them. I piled the hives with combs on top of each other, and put an empty hive on top. In that I put a basin with some dirt in it. I had made some sulphur matches by melting sulphur, and while it was melted I drew strips of old cotton cloth, about two inches wide, thru it, and wound the sulphured rags around short pieces of narrow shingles. You will need about two in a pile of a dozen hives. I stuck the stick up in the dirt; set the sulphured rags on fire at the top end, and put on the cover. It will do all there is to be done. It will kill the worms every time.

Mr. Kretchmer—Why not use bi-sulphide of carbon?

Dr. Mason—Sometimes it blows up, and might blow the bee-keeper up; sulphur won't do that.

Mrs. Acklin—I think sulphuring bees is a cruel thing to do. I don't think people ought to rear any more bees than they want.

Pres. Root—I think the question refers more to sulphuring of combs and killing worms.

Dr. Mason—I would not sulphur bees; they are worth too much.

Mr. Taylor—There is another question with reference to combs: What would be the best method of keeping combs until swarming-time next season?

Mr. Taylor—In this climate, wherever it freezes hard, you can keep the combs safely during the winter in a place where the temperature is low. Moths don't stand the low temperature. In the spring the combs will be entirely free of them. If you still keep them closed tightly they will be perfectly safe; or if you can't do that, if you keep them in a cold cellar they will keep all right, so far as moths are concerned; if they are hung an inch apart in the light where the air circulates they will be comparatively safe for a year or two; but insects soon infest them in that way.

Mr. Benton—It seems to me that we want something to protect combs that will operate all the while. Objection was made to bisulphide of carbon; that can be used with a little care if you have a big room or shed where the hives may be packt up there on top of each other. Have a shallow tin on top with a little of that, and it will operate for weeks and save a great deal of trouble. You simply have to lift off the top cover and put in a little more bisulphide when evaporated. It is only dangerous if you bring fire near it. If set away in that fashion combs ought to be kept all summer.

Mr. Kretchmer—Why not pile the hives in the apiary, five or six high; then there is no more danger about it than to have matches in the house, not one particle of danger, using proper care. I admit the fumes are readily ignited if confined in a place; so is gasoline, but bi-sulphide of carbon can be used safely if used with proper care.

Mr. Abbott—I will give you the benefit of a little experience I got in the patent-medicine business. You can stack your hives up out in the yard and put the empty hives at the bottom, instead of on top, just as Mr. Kretchmer said. You need not use bisulphide of carbon; you can use the preparation I will give you. You can't set your hive a-fire with it. Here is the recipe: Take two parts of sulphur; nitrate of soda one part; black oxide of manganese one part, and mix them together, and have your preparation ready when you want to fumigate. I don't care if there are 20 hives, put about a big spoonful of that into a wooden dish if you want to, and you can't set the dish a-fire. The fumes generated by burning will put it out. That will burn readily by putting a match to it. It will burn quick. The nitrate of soda is very inflammable, and the black oxide of manganese generates oxygen sufficient to feed the fire; the sulphur fumes consume the oxygen. A spoonful of that put into an empty hive below 20 hives will not only make fumes that will kill the worms, but will stay two or three weeks if the hives are air-tight, and you don't have to do it two or three times in the season. While I am on my feet I want to say, if you people who keep poultry will put a pound of that in your poultry-house during the summer, and get your poultry-house thoroly sprinkled before you do it so the water will permeate the cracks and crevices, which will enable the water to absorb the fumes readily, you will kill every louse without any trouble.

Dr. Mason—I would like to ask, What is the object of putting the empty hives at the bottom?

Mr. Abbott—Because the fumes go up better than they go down.

QUES.—Do you make the colonies queenless 48 hours before introducing the new queen?

Mr. Taylor—Well, that depends; if honey is coming in during the honey season, you can introduce the queen almost any time, almost immediately. I have introduced a good many this year just threw them in. When honey comes in rapidly the bees will take any queen; there is no trouble about it. I remember one time when I handled the bees a good deal more than I do now during the honey season, I was taking off some combs to extract, and I had the bees out on the ground in front of the hive, and they were scattered around; when I got thru and the bees got back, I saw they were greatly agitated. I surmised the queen was gone, and I lookt around and found I had stept on her. I happened to have an extra one, and I put her down among the bees, and they crowded around her and were just as pleased to see her as tho she was their own; it didn't make a bit of difference. In the spring you can do the same thing. When they are anxious to build up, they are anxious for a queen, and they will frequently take a queen at once. But a person needs some experience to do that. A person who has tried to introduce queens can tell at once whether the bees will accept a queen. Without that experience you sometimes make a mistake.

Mr. Hershiser—I would like to refer to the first question—Are best American Italians superior to imported Italians? What was the answer to that?

Mr. Taylor—I don't think it reads so. The question is, "Are the best American-Italian bees superior to imported stock?" I think I said no, but I didn't comprehend the question fully. I don't think there is any difference.

Mr. Hershiser—I didn't think you comprehended it. What is the difference between imported Italians and American Italians?

Mr. Taylor—I don't know as there is any difference, except we select them to get color, and perhaps they are a little lighter.

Mr. Hershiser—If the imported ones were better I think that would be the best way of improving stock. I think American breeders are doing more towards improving stock than foreigners are.

Mr. Rankin—I would like to say a word with reference to this bisulphide of carbon; it is a deadly poison. It will kill woodchucks and men, and it is well to handle it with a great deal of care.

Mr. Taylor—It won't kill a woodchuck unless it is shut up with him pretty tight—same way with men.

QUES.—I would like to know what is the matter with the frame of brood on the platform?

Mr. Taylor—I think it is pickled brood, but I may be wrong. It seems to be that according to the opinion of many in the room. If any of you want to know what pickled brood is, look at this comb.

The convention then adjourned to 1:30 p.m.

(Continued next week.)

Contributed Articles.

Water for Bees and Brood-Rearing—A Reply.

BY PROF. A. J. COOK.

It is always pleasant to have Mr. G. M. Doolittle as a critic. He is always candid, and never flippant. He has had a wide observation, and does a good deal of thinking. Therefore, any opinion that he may have is never to be dismist without full consideration.

I have carefully reread my article, page 482, and should wish to change very little were I to rewrite it. In one or two places I should be a little more explicit were I to write the article again.

Mr. Doolittle claims, and with much show of reason, that the main use served by water in the economy of the hive is to form a part of the food fed to the brood. His two reasons for this opinion are as follows: First, water is gathered very rapidly when the bees are rapidly building up, and this irrespective of activity in the field; secondly, the weight of the brood can only be accounted for in that water is given abundantly to the brood. I am not at all certain that Mr. Doolittle's first proposition is true, tho I am sure it would generally be so. I feel very certain that the latter is not true. Mr. Doolittle and all bee-keepers know that bees frequenly continue breeding for days without gathering any water at all. Certainly, then, water can not be directly requisite for the production of brood.

As I stated in my previous article on this subject, water serves the animal in three ways, as follows: First, it helps form the tissues themselves; second, it aids the processes, as, for instance, the keeping of substances in solution so that they can be used in the body; thirdly, it serves in cooling off the animal body. This last is mechanical, as the cooling comes from the act of evaporation. We see, then, that bees take water as they do all other food, to help build up their tissues, and also to aid the processes. Secretions, then, could not be formed except as water is taken as part of the food. I believe that it may be shown, some day, that the so-called chyle is largely digested pollen to which, very likely, honey may be added. The precise origin and nature of the food fed to the drones, queens, and larvæ by the nurse-bees is not yet fully determined. That some honey may pass into the true stomach and there mix with the digested pollen is not improbable. I feel very certain that no water does pass directly into the stomach as a component part of this larval food. I believe that it is all absorbed, passing into the blood and, of course, indirectly aids in digestion, and so is important in all the work of the bee. In all animals, water is very quickly absorbed when it is taken into the alimentary canal, and I believe with bees, as with higher animals, that it speedily passes to the blood and so promotes secretion and excretion.

I do not suppose that perspiraton on the outside among bees is at all active. The chitinous cover of bees would serve to greatly lessen perspiration from the outside surface of the body. Thus, it is probable that what we might call skin perspiration is very slight. Possibly it does not exist at all. But we must remember that the skin of bees is reflex, and lines all the great network of breathing-tubes. These breathing-tubes come in close apposition with the blood. That water from the blood is constantly and rapidly passing to the air in the breathing-tubes or trachea, is certainly true. This is purely analagous to perspiration, as the water is constantly passing from the blood and cools the body. Of course, this water passes out with the air, always bearing its load of heat with it. It goes without saying that neither Mr. Doolittle nor I ever saw this "sweating." It is entirely out of sight. There is no question but that the bee must cool off. It is as active as the higher animals, and all animal activity genders heat. This heat would soon destroy life were it not carried away. I still believe, despite Mr. Doolittle's kindly criticism, that a very important function of the water taken by bees is to secure this cooling-off process.

Mr. Doolittle remarks upon the sticky moisture that we always find when bees are suffocated in the hive. Of course, any honey that is incorporated in this moisture is regurgitated by the bees. I do not state that there may not be a good deal of this honey. I believe as strongly that very much is water which passes from the bees in their attempt to cool off their bodies. Does Mr. Doolittle know that this is not the case?

Mr. Doolittle's weight of brood I think is no argument in this case. The brood is not made up of water, but of tissue like all larval insects. I do not think the brood contains any more water than do other larvæ, yet many larvæ surely get no water at all in their food except in combination. This is true of all the borers.

To recapitulate: Bees need water as food to build up their bodies, to aid in performing their functions, hence, in producing the food of their young and in counteracting the heat produced by vital action. It is probable that this water all goes to the blood, and not directly into the food given to the larvæ. I do not believe that in the general economy of the body the processes are greatly different with bees from those of higher animals. If not, then surely the cooling-off process which comes thru evaporation of water—we might call it respiratory sweating—is of exceeding importance.

I am very glad Mr. Doolittle wrote his critique, and I hope others will do so if they feel that they have good and substantial reason for doubting these propositions. The processes in the animal economy are so complicated that none of us can afford to be dogmatic. We only want to get at the truth, and there is no such good way as by friendly criticism. Los Angeles Co., Calif.

Finding Queens—Experiences in Introducing, Etc.

BY EDWIN BEVINS.

KILLING old and other undesirable queens, and introducing young ones in their places, has been my chief occupation for several days. Much has been written lately on the subject of finding queens, and judging from the remarks of some, they seem to consider it a formidable task. I have not found it so. My method is as follows:

I first get an empy hive and fasten a swarm-guard at the entrance. Then I smoke the bees to be operated on, and set the hive to one side. Then I place the empty hive where the one removed stood. Then I adjust a wide board so that its upper side shall be on a level with the upper side of the alighting-board. Then I place two short pieces of 2x4 on the wide board, so that one end of each piece shall connect with one side of the hive. These pieces of 2x4 direct the bees to the entrance, and prevent the queen from crawling off to one side, as she sometimes will if there are no obstructions. Then I smoke the bees a little more at the top, and proceed to take the frames out one by one, and shake the bees all off in front of the empty hive.

If time presses, I do not look on the combs for the queen at all. If not, I give them a few hasty glances. The combs as fast as shaken are put into the hive, and the bees soon cover them. The bees that have clung to the sides and bottom of the old hive are brusht down in front of the new hive, so there is practically no chance to miss the queen. I never miss finding her outside, and sometimes while there are a good many bees outside with her. The time consumed is less than the time spent in telling how it is done.

The queen I got from Dr. Miller was introduced safely, but it took a long time to do it. She was received on Tuesday, and put in a hive with bees taken from above a queen-excluder, and confined to the hive by means of wire-screen. This confinement was continued for only about 48 hours. By Dr. Miller's advice I left the pasteboard over the candy. On the Friday following the Tuesday when the queen was received, the bees had not attackt the pasteboard at all, and I had it removed. Then the bees were left unmolested till the following Tuesday or Wednesday, when I had an examination made, and found the queen still in the cage. I told the person making the examination to take a small stick and punch a hole thru the candy. He did so, and a day or two after being able to get around myself, I lookt and found the queen on one of the combs.

I was not so fortunate with another queen I received from Alabama a day or two after Dr. Miller's came. The candy had been eaten into to a considerable depth, and fearing the bees might release the queen too soon, I tackt a piece of pasteboard so as partly to cover the hole that admits to the candy. After two days the pasteboard had not been toucht, and it was removed. Examining again at the end of five days after the cage was placed on the frames, I found the queen and her escort dead in the cage. The bees had not tried to release her. Whether the pasteboard had any part in the loss of this queen I will not venture to say. I am inclined to believe, however, that my bees do not like pasteboard.

The season here has been almost a failure so far as surplus honey is concerned. Most of my colonies have enough for winter. A few will have to be fed. I made some nuclei and reared some queens for them in August, and I shall do a good deal of doubling up, partly to save stores and partly to get rid of some undesirable queens. A nucleus with a young queen will be united with an old colony having considerable honey, but whose queen was past her usefulness.

Decatur Co., Iowa, Sept. 28.

A Visit to Some Kane Co., Ill., Bee-Keepers.

BY THE EDITOR.

SEPTEMBER 19th we accompanied the Prohibition Special Train (which carried candidates Woolley and Metcalf, with others) as far as Aurora, Ill., expecting to spend the day among bee-keepers in and near that city.

Mr. W. H. Norris, one of the bee-keepers, met us at the depot, he having come to see the special train arrive, and hear the speakers. He took us "under his wing," and

Mr. F. L. Taylor and Apiary.

Mr. John Diveky and Apiary.

after a sumptuous dinner at his elegant home, hitcht up his speed-away horse, and took us to visit a few of the bee-keepers in that locality. The honey crop the past season had been only about a quarter the usual amount, the principal source being sweet clover, we believe.

We first called on Mr. John Mareth, who has a very nice yard of some 80 colonies. He runs principally for comb honey. Mr. Mareth is a pleasant young man, working in the shops as a foundry-man, so he has but little time to devote to his bees. Still, he is making a success with them, as he well deserves to do.

Mr. John Divekey was the next "victim" we saw, a picture of whose apiary is here presented, and is the oldest bee-keeper in the place. He is contentedly sitting on one of the hives.

He was born in Germany, and there commenced handling bees when 10 years of age, using at that time the old straw hive. He came to his present place in 1857, and in 1858 built the comfortable home that he now lives in. At the rear is a large lot that extends to the river, on which he has kept bees for 42 years. Tho he has held the position of foreman of the coach department of the C. B. & Q. railroad shop all these years, his spare time has always been spent with the bees, and none in that locality has had a longer or more practical apiarian experience than he. At times he has had as many as 225 colonies.

Mr. Divekey was the first bee-keeper there to import and introduce the Italian bees, in the days when the introducing of queens in box-hives was an entirely different process from the operation in the dovetailed hive of to-day. Tho many years have past over his head, he still has the same interest in his bees, and works with them with even more pleasure than he did 40 years ago. With his quiet, homelike disposition, Mr. Divekey is always ready to tell of his experiences, and to impart his information to those less informed.

Last spring he had 40 colonies, and now has 90, all in first-class condition. He expects to kill about one-half the number this fall, and extract the honey from them, keeping the empty hives with full combs for the new swarms next season, considering them of great benefit to the new swarms each year. Aside from his extracting he works entirely for comb honey, and reports about an average crop. He is using the new 8-frame dovetailed hives with fence supers, believing them the best he has ever used. Bee-keeping has been to him, these many years, a "side line" of pleasure and profit a pleasure because of the success he has made, and a profit because of the assistance it has been to him in gaining his very comfortable financial circumstances.

Mr. F. L. Taylor is another bee-keeper who lives quite near to Mr. Norris. By the way, Mr. Norris has a very small apiary at present which he expects to increase another year. He now spends most of his time in looking after his extensive property interests.

Mr. Taylor has kept bees in his present locality about eight years. He works much on the same plan as Mr. Divekey, tho he prefers and uses 10-frame hives, using the T super. He thinks the 8-frame hive is all right if it is lookt after often, and the colonies fed when necessary, tho he can see nothing gained, and is very certain the bees in 10-frame hives will get along with less attention, and are pretty sure to have enough to eat, and make a larger and stronger colony.

Mr. Taylor is in the jewelry business, but his greatest pleasure is the bees. He introduced six 3-banded Italian queens in July, 1899, and three golden Italian queens. All are doing well, as all were successfully introduced. He thinks the 3-banded Italian queens better layers than the golden, tho the golden colonies are very strong.

Mr. Taylor has 22 colonies now, and does not expect to keep over 30, as he is on the river bank in the center of a city of 22,000, and not over three blocks (in a direct line) from the post-office, city hall, etc. We take pleasure in showing a picture of Mr. Taylor's neat apiary, which is just at the rear of his jewelry shop. The gentleman in the picture, apparently drest like a Chinaman, is the jovial owner.

We also met Mr. Sylvester, who has 25 or 30 colonies. He is a contractor and builder, and has little time to devote to his bees.

We returned to Chicago after spending a few very pleasant hours among the bee-keepers mentioned.

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Eighteen Years' Experience with Bees.

BY A. MOTTAZ.

I FIRST started with a stray swarm that I caught. Then I got "Langstroth on the Honey-Bee," "A B C of Bee-Culture," and some minor books, and subscribed for Gleanings in Bee-Culture and the American Bee Journal. I increast my bees slowly, aiming for extracted honey rather than increase. Tho my winter losses have been light (except winter before last, when I lost 50 percent in one apiary), my increase has been from bought bees. Timely and careful spring and early summer management does prevent swarming for me. I now have 140 colonies in five different apiaries, spread 10 miles apart, or between extremes, mostly in 10-frame Simplicity hives, tho some are in 2-story chaff hives, and some in new 8-frame dovetailed chaff hives, with two half stories, one for extracting and one for comb honey. I have not had them long enough to express any opinion on them. I have serious doubt if there is any hive better for extracting than the regular 10-frame Simplicity, tiering as necessary, having at least enough of them and combs, or foundation, to tier three high.

I handle my combs in the hives. I have a high wheel-barrow, with corn cultivator wheel, and legs high enough so that it will just clear the grass or rubbish when I stand. The barrow consists of only the frame. being as light as possible consistent with the strength necessary to carry all I can wheel.

I have adopted the castor-wheel platform for two hives, which I lay loose on the barrow frame, projecting two or three inches to one side, so as to rest that side on the table in the honey-house as I wheel in, then it is the easiest thing for me and my assistant to take hold of each of the other corners and roll the platform on the table, which is made just high enough so that it is on a level with the barrow, just wide enough to hold the platform lengthwise, and long enough to hold the two platforms, the one empty and the full one.

I have an extracting-house 15x8x6 feet, on iron truck wheels 28 and 32 inches high. It has a door behind; two single sash windows at opposite sides, and one in front, all provided with removable sash and wire screen with bee-escapes; round roof, railroad-car fashion; floor of fencing drest and matcht on foundation like a hay-rack, only more crosspieces; side and roof frame 2x2 inches, and ½ inch boards 6 or 8 inches wide. It is lined all around inside with sheeting, to close all cracks. The roof is double, with building-paper between. The whole thing ready to work with driver in, weighs 3,300 pounds. I haul it as near to the apiary as possible. I have for the horses a pair of covers extending all over the head and nose, and also a rope 100 feet long with hooks at both ends to pull away a distance, if bees are very bad. We have done one extracting, and are much pleased with it.

I use duck sheets on the hives, and they work nicely to flap in smoke to drive down the bees. I leave one end sticking to the hive, raise one end, blow a puff of smoke to the other end, then flap in the smoke. If there are two supers, the top one full, it works very well.

Tho I have all the necessary implements to make it, I prefer to buy all my comb foundation from extensive manufacturers; so also as to queens. I believe it pays me to buy of experienced and reliable breeders, except perhaps it is well to rear a few from one's best stock, to have on hand for emergencies.

I have made a very satisfactory wax-rendering tank, as per directions given by some one in the bee-papers. It is 3x4 feet, 16 inches deep, made of 2-inch plank, with galvanized sheet-iron bottom, set on bricks on edge, and of a convenient hight for a roomy fire-place underneath. A wire sieve is made to slip in from the top, and is wedged down so I can dip the melted wax from the top. I believe it is an unexcelled way.

I had a long siege of foul brood 10 years ago. I failed with spraying salicylic acid, but cured by transferring bees on foundation and clean hives. I boiled hives, melted combs for wax, extracted, boiled and fed infected honey, all successfully. Some years later I bought the disease again with bees, but got rid of it promptly the same way as before.

Except winter before last, I have wintered bees successfully both in the cellar and outside in chaff hives, and some in Simplicity hives, protected by straw in movable sheds.

I have gradually created a good market for extracted honey in pint jars to grocers, and 1, 2 and 4 quart pails to families. It has been an up-hill and persistent work. I now supply from 80 to 100 grocers in some 10 different towns or cities, and dispose of 5,000 or 6,000 pounds yearly. I found it necessary until now to sell either for cash down or on commission, in order to introduce both myself and the honey, and overcome the prejudice against it. Now I am doing away with the time plan.

I hereby wish to thank the many contributors to our papers whose kinks I have appropriated, and that have been such helps. That is my main object in reading the bee-papers. I think best to adopt and apply the experiences of others, as I see their practicability, rather than try to originate very much myself. La Salle Co., Ill.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Uniting Weak Colonies.

I have three weak colonies; please tell me plainly how to unite them for winter. NEW YORK.

ANSWER.—Follow any of the plans laid down in your text-book, and you will be pretty sure of success. But bees do not always act alike, and sometimes there will be fighting with the best of plans. In such case a good smoking helps to make them behave. Here is one good plan: Kill the queen of one of the colonies two or three days before the time of uniting. Call this colony No. 1, and the other in which the queen is left No. 2. Two or three days after killing the queen of No. 1, bring it near No. 2. Set No. 2 off the stand and put an empty hive in its place. Now take alternately from the two hives frames of brood or honey with adhering bees—first from one, then from the other—and set in the new hive. The excess combs must of course be removed after the bees are brusht from them.

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Transferring and Feeding Bees.

About two weeks ago I bought 20 box-hives of bees and transferred them to 10-frame hives, and had 6 frames extra, mixt with brood and honey, but I was afraid they would not winter on 6 frames. I bought 20 colonies in 8-frame hives, thinking that I would take one frame each from the last 20 and put into the first 20; but I find that the last 20 are not any better off than those I got from the box-hives. It seems that those in 8-frame hives are about 4 years old, and perhaps older; the brood-chamber is solid with old brood-comb with about an inch or two of honey at the top. There was no space at the end of the frames, and I had to knock the hive to pieces to get them out. The brood-combs had separated about an inch from the top. The last 20 I got I am to return the hives when they are empty, so I transferred two into my hives.

1. What I wish to know is, can I leave them until spring, and if they swarm put the swarm into a new hive and then destroy the old brood-combs and return the old hives? Or, could I put an 8-frame super on and let them fill up, then after awhile divide and put the queen in? Or, kill the old queen and send and get a young one? Thinking you might know of a better way to get them out without going to the trouble of fastening all those old brood-combs to Hoffman frames, is why I ask. If I don't transfer them now, will they swarm in the spring?

2. I will have to feed those that I transferred. How often should they be fed? Which is the best feeder? How much water to sugar should I use? CALIFORNIA.

ANSWERS.—1. Yes, it is an excellent plan to leave the bees in the old hive till they swarm next year, then 21 days after swarming there will be no worker-brood in the hive, when you can drum out the remaining bees and dispose of the comb as you see fit. If the hives are not unusually large, the colonies in them stand as good a chance of swarming as any bees. If the season is fair, and if no surplus room is given, they will be pretty sure to swarm.

2. Once feeding is enough, if plenty is given. Root's "A B C of Bee-Culture" gives the preference to the Miller feeder for fall feeding.

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Uniting Bees—Causes of Swarming.

I read all the bee-books, and still I don't understand some things, and therefore know of no way to find out but to consult the best authority.

Why is it that I invariably fail in my attempts to unite two colonies, as they go to fighting, after following all the directions laid down by yourself and others? To illustrate more fully: A few days ago (Sept. 28) I discovered a swarm of bees flying around my apiary. I don't know where they came from. After they clustered I took a second super from a hive I had on for feeding up a colony. I hived them in this super, carried them to the hive the super came from, and after placing a piece of wire-cloth over the first super left on the hive, I placed these wandering bees on this hive over the wire-cloth about dark. The next morning I found many dead bees in front. These I think were those that took wing from the ones I had lately hived.

Then I concluded to try a new plan. After removing the wire-cloth, I left a passage or entrance for the new bees by raising the top a little so they could come in and out without going thru the lower hive of bees.

I neglected to say at the proper place that I smoked the hive of bees before putting on the new bees, but could not smoke the bees I had just hived because they, being in a shallow super, would almost all take wing.

After leaving this entrance and removing the wire-cloth, I don't think they have fought any more up to date, (Sept. 30th.)

1. Now I wish to ask, What do you think of my plan of uniting? I will leave open the passage at the top for a few days longer until everything seems peaceable, when I expect to add the third super in which to feed, and then close the top. If you approve of my plan, how long before you would close the top or extra entrance? Remember, I was feeding the bees originally in this hive for winter, and as they were my weakest colony I chose to unite the strong bees with them. I neglected to say, also, that when I was hiving these bees I very carefully lookt for the queen, but saw none, altho they were a good-size colony.

2. Is there any other cause for bees swarming at this season of the year, besides starvation? Several swarms have past along lately, like they do in the spring.

I will say in conclusion that I read of apiarists uniting bees as a very frequent and simple thing, but it doesn't work that way for me. For instance, they speak of uniting nuclei in the fall, as a plain, easy-going thing. They speak of taking frames of brood with the bees clinging to them, from different hives, and forming a new colony, and never speak of the bees fighting. It must be I have fighting bees that won't unite. MISSISSIPPI.

ANSWERS.—1. I am a little in the condition you are after you have read the text-books. After reading your question there are points not clear. As I understand it, when you first put on the super of strange bees, there was no passage from the super directly into the open air, but it is not stated whether there was any passage from the super thru the wire-cloth to the space below. If there was none, and the bees were completely imprisoned, there certainly could be no fighting. If part of the bees of the swarm were not secured in the super, and entered the hive thru the regular entrance, they would pretty surely be killed. That could hardly be considered failure on your part, for it would simply be some stray bees entering a wrong hive. Then (if I understand correctly) you took away the wire-cloth and allowed the bees in the super a passage into the open air. The fact that there was no fighting is proof that the scheme as a whole was a success. But if I have made the right suppositions you are not to take it for granted that your second attempt was a success independent of the first. The bees had some time to get acquainted before the wire-cloth was taken away. It would have been as well, possibly better, if the outside entrance had been allowed from the start.

The time for closing the upper outside entrance is merely a matter of your own convenience. It can be done any time after 3 or 4 days, or later.

It is not a bad thing that you have learned that there may be difficulty in uniting. Many a one has puzzled over a failure after a number of successes. Next June, you may take a frame of brood and bees from any colony and give it to any other colony with scarcely a chance of any fighting, and you may keep it up all summer, but in the fall, after all gathering has ceast, it's another story. Then you may count on fighting unless you take special precaution. One good way is this: Set an empty hive on the stand where you want the united colony to remain, and this will be usually on the stand of the stronger colony, the weaker having been unqueened 2 or 3 days before. Now take a frame from one of the hives, shake down the bees in front of the empty hive, and put the frame in the empty hive. Then do the same thing with a frame from the other hive, and thus proceed alternately until all have been used. Of course the surplus frames must be taken away after shaking or brushing the bees from them. After the first frame has its bees shaken down close to the hive, the remaining bees should be shaken down a foot or so farther from the hive.

2. Yes, bees sometimes swarm regularly quite out of season, when it is by no means a case of starvation. It is not easy to account for all the freaks of bees.

Wintering Bees in a Damp Cellar.

Last winter, in New York, I wintered 12 colonies in a dark cellar, in which the temperature would often go down to 35 degrees. The bees were in 8-frame dovetailed hives with covers sealed down, and on deep bottom-boards. Many of the hives became very damp and moldy, and water ran out of the entrance of every hive. They wintered poorly, but all came thru alive. I expect to winter them there again this winter. Would it not be better to leave the bottom-boards off, and put some absorbent like burlap under the cover? SUBSCRIBER.

ANSWER.—It is doubtful that any gain would be made by removing bottom-boards that are deep enough to allow an entrance of 1½ to 2 inches. Possibly there might be a gain by having some absorbent under the cover; but anything of that kind to allow a freer passage of air would make the hives cooler, and they are too cool already. If the temperature often goes down to 35 degrees, the thing to strive for is to have the cellar warmer. Can you not bank the cellar with some kind of banking that will raise the temperature several degrees? A fire in a stove in the cellar would make all right, but it might not pay with only 12 colonies. There would be some gain upstairs, however, in having a warmer floor—an important thing—especially if there are small children in the family. In a cold spell you could carry down hot bricks or stones, or, better still, jugs of hot water. But the water must be corkt tight, so no vapor can escape in the cellar.

"Chunk Honey"—Honey-Plant Illustrations.

1. I am thinking of trying to build up a trade (in a certain section) on chunk or bulk comb honey, as it is called in Texas. I want to produce this honey in the regular Langstroth brood-frame, in an upper story. Do you think the thin-super foundation would be heavy enough to put in full sheets in this size frame without wires? If not, kindly advise me what weight foundation I would better use?

2. Does Prof. Cook's "Bee-Keepers' Guide" give any more illustrations of honey-producing plants than the "A B C of Bee-Culture?" VIRGINIA.

ANSWERS.—1. In all probability it would sag badly. If you do not care to use shallow frames, it would not be a great trouble to nail a middle bar in the Langstroth frame, which would make it all right to use thin foundation. Or, you could use the full frame without the middle bar, and use a narrow starter of thin foundation. It would hardly be advisable to use foundation heavy enough to fill a full frame, for you could hardly build up a trade with such honey. Texans prefer the term "bulk honey" to "chunk honey," altho until lately they have always called it "chunk honey."

2. A hasty count shows more in Prof. Cook's book.

The Nonsensical Sting-Trowel Theory Again.

The following paragraph was taken from the New York Tribune:

> BEES.—C. M. (Winchester, N.H.)—The bee's sting, supposed to serve merely as a fighting weapon, is more frequently utilized by this insect to preserve the stored-up food. Before closing its cell the bee adds to the honey a drop of the venom of its sting, this venom containing the formic acid which prevents the honey from fermenting or getting spoiled. Thus the bee, long before Lister and Pasteur, knew the use of antiseptics.

I have never seen such a statement in any bee-book or bee-paper, and would like to know if it is the truth. SUBSCRIBER.

ANSWER.—Yes, if you go back far enough, you will find both in book and paper the nonsensical statement made that the sting of the bee is used as a trowel to manipulate wax, and that just before the closing of each cell of honey a tiny morsel of formic acid is dropt into the cell from the sting of the bee. The Rev. Wm. F. Clarke was the originator of the idea, the only book in which it appeared being a small volume of verse written by him. He never gave any proof for the assertion, but persisted in giving the vagary of his imagination as an establisht fact. It seems too bad that so influential a paper as the New York Tribune should start anew such arrant nonsense.

……

York's Honey Calendar for 1900 is a 16-page pamphlet especially gotten up to create a demand for honey among should-be consumers. The fore part was written by Dr. C. C. Miller, and is devoted to general information concerning honey. The latter part consists of recipes for use in cooking and as a medicine. It will be found to be a very effective helper in working up a home market for honey. We furnish them, postpaid, at these prices: A sample free; 25 copies for 30 cents; 50 for 50 cents; 100 for 90 cents; 250 for $2.00; 500 for $3.50. For 25 cents extra we will print your name and address on the front page, when ordering 100 or more copies at these prices.

◆

The Chicago Convention Picture is a fine one. It is nearly 8x10 inches in size, mounted on heavy cardboard 10x12 inches. It is, we believe, the largest group of bee-keepers ever taken in one picture. It is sent, postpaid, for 75 cents; or we can send the American Bee Journal one year and the picture—both for $1.60. It would be a nice picture to frame. We have not counted them, but think there are nearly 200 bee-keepers shown.

◆

"The Hum of the Bees in the Apple-Tree Bloom" is the name of the finest bee-keeper's song—words by Hon. Eugene Secor and music by Dr. C. C. Miller. This is thought by some to be the best bee-song yet written by Mr. Secor and Dr. Miller. It is, indeed, a "hummer." We can furnish a single copy of it postpaid, for 10 cents, or 3 copies for 25 cents. Or, we will mail a half-dozen copies of it for sending us *one new* yearly subscription to the American Bee Journal at $1.00.

◆

Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Upon receipt of $1.00 for your Bee Journal subscription *a full year in advance*, we will mail you a Wood Binder free—if you will mention it.

A Close and Exciting Election!

Which will be Elected?
How many Votes will he Get?

⁂

Send 25 cents for a three months' subscription to the

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McKinley

and a chance in the

Prize guessing contest for $5,000 in cash,

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which will be awarded to those coming the nearest to the official figures of the popular vote cast for the successful presidential candidate.

The Publishers' Guarantee Association has deposited $5,000 in the Metropolitan National Bank, Chicago, Ill., for the purpose of paying these prizes, under strict conditions preventing its use for any other purpose.

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to the nearest guesser, and 197 more cash prizes to be awarded as follows:

To the nearest correct guess	$2,000.00
To the second	500.00
To the third	250.00
To the next 5, $50.00 each	250.00
To the next 40, $25 00 each	1,000.00
To the next 50, $10.00 each	500.00
To the next 100, $5.00 each	500.00
198 cash prizes	$5,000.00

TO AID GUESSERS:

McKinley's popular vote in 1896	7,107,304
Bryan's popular vote in 1896	6,533,088

Our Offer: We have made arrangements with the Publishers' Guarantee Association, of Chicago, to enable our subscribers and friends to participate in these great cash prizes. Every one is invited to participate, and for each three months' subscription to the Farm, Field and Fireside sent us, accompanied by 25 cents, a guess will be allowed. Those remitting 50 cents for six months' subscription will be allowed two guesses, and those remitting $1.00 for one year's subscription will be allowed four guesses. This applies both to new subscribers and to renewals. Present subscribers can send in their guesses, accompanied by the money, and their subscription will be extended.

How to Guess: When you send in your subscription you make your guess. Be sure you write your name and address and guess as plainly as possible. As soon as we receive your subscription we will fill out and send you a certificate corresponding to guess made by you, which will entitle you to any prize that you may draw. Be sure and keep your certificate. We will file the duplicate with the Publishers' Guarantee Association. Every subscriber will receive as many certificates and have as many guesses as he sends subscriptions to Farm, Field and Fireside.

In case of a tie, or that two or more estimators are equally correct, prizes will be divided equally between them.

CUT THIS OUT AND SEND WITH YOUR SUBSCRIPTION.

My Candidate is ....

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Langstroth on... The Honey-Bee

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This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains over 500 pages, being revised by those large, practical bee-keepers, so well-known to all the readers of the American Bee Journal—Chas. Dadant & Son. Each subject is clearly and thoroly explained, so that by following the instructions of this book one cannot fail to be wonderfully helpt on the way to success with bees.

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Send for Catalog.

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DITTMER'S FOUNDATION Wholesale and Retail

This foundation is made by an absolutely non-dipping process, thereby producing a perfectly clear and pliable foundation that retains the odor and color of beeswax, and is free from dirt.

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The A B C of Bee-Culture says of it: "This is a beautiful plant for the flower-garden, to say nothing of the honey it produces. It grows fromtwo to three feet in hight and bears large, clusters of bright pink flowers. It grows naturally on the Rocky Mountains, and in Colorado, where it is said to furnish large quantities of honey."

We have a few pounds of this Cleome seed, and offer to mail a ¼-pound package as a premium for sending us ONE NEW subscriber to the American Bee Journal, with $1.00; or ¼ pound by mail for 40 cents.

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WANTED.

Light Amber Comb Honey. Please mention quantity you have, how put up, from what flowers gathered, and what price you ask f.o.b. Chicago.

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Be Kind to Stock by humanely dishorning them only with the quick, smooth cutting **Convex Dishorner.**
I also make the Bucker Stock Holder, one of the best aids to dishorning, and two other styles of Dishorners, one for calves. Every approved appliance for this work. **Send for FREE book.**
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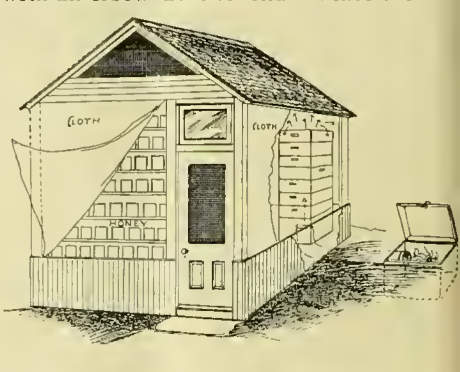
BEEDOM BOILED DOWN

Bleaching Comb Honey.

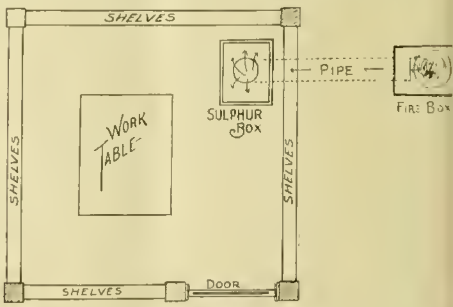
Build a bleaching-house by placing posts 2x4 or 4x4 in the ground, 5 feet apart on all sides, making it 10 feet square and 7 feet high. Put on plates and roof. Build up around the bottom with lumber 2 feet high from the ground, making it bee-tight. Put in your shelves between the posts, making them 4 inches wide, and placing them 6 inches apart, one above the other. Place these shelves entirely around your bleaching-house, then cover the outside, from the lumber at the bottom to the plate, with the lightest house-lining. Seal overhead with cloth or lumber. Leave the space between the scaling and roof open so as to keep your house as cool as possible.

Place a screen-door in one corner, as seen in the sketch. Locate a work-table, 3x6, in the center of your bleaching-house, for cleaning and packing on.

The best way to build a sulphuring-box is to take a stovepipe 8 feet long, with an elbow at one end. Place the pipe under ground about 8 inches deep, letting the elbow come up above ground in one corner of your bleaching-house. For the outside end of the pipe take an old coal-oil can and cut a hole in the side sufficiently large to admit the stovepipe. Cut about half of the top of the can out square to allow you to put in your sulphur and for draft; then make a box just the size of a super, but four times deeper. Place the box over the elbow on the ground, in the corner of your bleaching-house, as seen in the sketch.



We are now ready for business. When you take off full supers of honey from the hives, carry them into your bleaching-house and place on the sulphuring-box; build up ten or twelve high. Put a heaping tablespoonful of sulphur in an old tin plate or pan, and place it in the oil-can and start it to burning. In this way you get the full benefit of your sulphur, as it enters the super in every row of sections and passes from super to super. Some may ask why I have the sulphur so far from the honey. Why not put it directly over it? The reason is, I have tried that, and the consequence was I had a lot of comb honey that became hot enough to begin to settle in the sections, and also turned them dark at the bottom of the sections. To get the best results, keep your honey as cool as possible when sulphuring. After the sulphur that you have put in your box has burned out, turn your supers upside down on your table; take out the honey and clean; and as you clean place on the shelves side by side, the honey facing the outside. Let it remain about 24 hours in daylight, then reverse, putting the other side of the section out to the light. When my



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Or, Manual of the Apiary,

—BY—

PROF. A. J. COOK.

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A description of the book here is quite unnecessary—it is simply the most complete scientific and practical bee-book publisht to-day. Fully illustrated, and all written in the most fascinating style. The author is also too well-known to the whole bee-world to require any introduction. No bee-keeper is fully equipt, or his library complete, without THE BEE-KEEPERS' GUIDE.

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shelves are pretty well filled I go over it every morning before the sun is up, reverse, and pick out what is sufficiently white. When the sun is shining it all looks white when it is not.

Pack as you take from the shelves. Care should be taken that the sun does not shine too hot on your bleaching-house during a hot day, or you will have a lot of honey settling down in the sections and dropping out. When the weather is cool the sun does no harm. In hot weather I use an awning on the sides that the sun shines on, about four feet wide, sufficient to break the heat of the sun from the shelves. It is not the heat of the sun that you want. It is the sulphuring and the light that do the work. After comb honey has remained on the shelves three days, and is not sufficiently white, place in supers and sulphur, and place on the shelves again. You will find that you can bleach the darkest comb. Any foreign matter that is on the comb will not bleach. I commenced the bleaching of comb honey several years ago, and there are but five others in the State, up to the present time, who have adopted it.—L. J. CROMBIE, of San Diego Co., Calif., in Gleanings in Bee-Culture.

GENERAL ITEMS

Fine Season—Eastern Oklahoma.

Bees have done fine here this season, mine averaging 66 pounds of comb honey per colony, spring count. I have sold the increase in colonies to people who are tired of paying me 20 cents per pound for honey.

People said I was foolish to invest money in bees, hives, and bee-papers,

DR. PEIRO,
34 Central Music Hall, CHICAGO.

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KEYSTONE DEHORNER

Makes dehorning easy and painless. Cuts on four sides at once. It never bruises nor crushes. Send for circulars.

Endorsed by colleges and experts. Highest award World's Fair. Most humane because the quickest and easiest.

M. T. PHILLIPS, Pomeroy, Pa., (Successor to A. C. BROSIUS).

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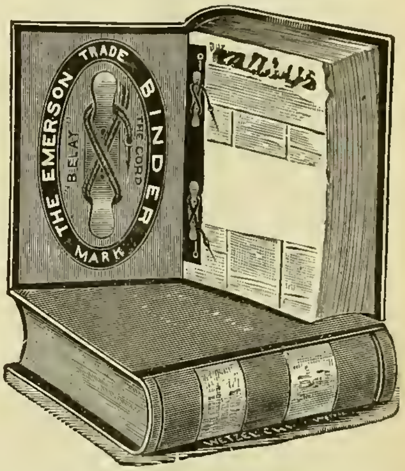
The Emerson Binder.

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee



Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

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You pay for what you get in this world. You understand that. But as a business proposition we want you to try our great medicine for Indigestion, Constipation, Biliousness, Sick Headache, Insomnia, "the Blues," and like complaints—

Laxative NERVO-VITAL Tablets

We know you won't buy it, until you know something about it. The best way to get you to know how good it is, is to let you try it. That's what we do. Send Stamp for "Health" booklet, and we will send you a free sample package, that you may try it yourself. We know you will always keep it in the house, if you once try it. What fairer offer could we make? At all Druggists—10 and 25 cents.

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MODERN REMEDY COMPANY, KEWANEE, ILLINOIS.

[This company will do exactly as it promises.—Editors.]

for this place was not a good one for bees. Now some say I "make" my section honey, but the most of them want bees. I have disposed of my entire crop around home, and have also bought some to sell.

On page 617, it is askt if Eastern Oklahoma is a good location for bees. It is not as good as some places, but I believe with careful attention bees will average 50 pounds of comb honey per colony here. Our honey is from sumac, both black and white, and cotton, which makes a No. 1 white honey. The sumac honey has a nice flavor, but is light amber in color. Alfalfa clover is grown to some extent here, and yields honey at times. Sweet clover does fine, blossoming from seven to eight weeks, or from June 10 to Aug. 10, and has bees on it all of the time.

F. W. VAN DEMARK.

Payne Co., Okla., Oct. 8.

Bees Did Well.

My bees have done well. They are all in good movable-frame hives with plenty of stores for winter.

I have taken off 250 pounds of fine honey this year, and increast from 2 colonies to 8. Honey is in good demand at 15 cents a pound.

H. C. SPRINGER.

Story Co., Iowa, Oct. 4.

Crop Almost a Failure.

My honey crop this year is almost a failure. I think I never experienced a poorer season. C. W. MCKOWN.

Knox Co., Ill., Oct. 9.

Bees Did Fairly Well.

My bees did fairly well the past season. I shipt 125 cases of honey. It has been very dry here, and we did not get any fall honey-flow.

MRS. FLORA WING.

Montrose Co., Colo., Sept. 29.

Selling Honey—Cleaning Combs.

I notice in "Editorial Comments," on page 627, it is said that Doolittle complains that in 23 years he had sold only 100 pounds of honey for cash to distant parties. My experience has been very different. Up to 1896 I cultivated my home market, but that year my crop was so large that I could not possibly handle it in that way, so I shipt it to commission men and to parties who paid cash on arrival, but the greater part of my crop I sold to those who sent cash with their orders. I received the smallest price from the commission men, the next smallest from those who bought for cash on arrival, and the best price from those who sent cash with the order, as they were mostly consumers.

The result is that since then, with the exception of one customer to whom I sell, I sell all my honey direct to consumers who send cash with the order. Tho my own crop of honey is large, I now buy all the No. 1 extracted honey produced in my own neighborhood, and ship in large quantities besides, from Wisconsin, Illinois, and Ohio.

You also speak of the effect of exposing combs to have the bees clean them of honey. I keep about 400 colo-

Sharples Cream Separators: Profitable Dairying

SPECIAL NOTICE!

Last winter's cut of basswood is the whitest it has been for many seasons. We are now making sections out of this new stock and therefore are in a position to furnish you with the very finest quality in the market.

LEWIS WHITE-POLISHT SECTIONS

Are perfect in workmanship and color.

Orders shipt immediately upon receipt. A complete line of everything needed in the apiary. Five different styles of Bee-Hives.

Lewis Foundation Fastener simplest and best machine for the purpose. Price, ONE DOLLAR, without Lamp.

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CALIFORNIA BELGIAN HARE ASSOCIATION. (INCORPORATED.)

We Are Importers and Breeders of Belgian Hares. Our stud is led by Wantage Fox, (score 96); Champion Duke of Cheshire, (winner 13 First and Gold medal); Buttercup (score 96). We have an unusually good lot of youngsters. For prices, etc., address our Chicago office.

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Breeding Farm. Alameda, California. 340 Dearborn St., Chicago, Ills.

Please mention Bee Journal when writing.

26 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 26 cents a pound—CASH—for best yellow, upon its receipt, or 28 cents in trade. Impure wax not taken at any price. Address as follows, very plainly,

GEORGE W. YORK & CO., 118 Michigan St., CHICAGO.

"The Prohibition Hand-Book and Voter's Manual," Size, 5x7 Inches; 50 Pages.

It contains Platform, Sketches, Pictures and Letters of Acceptance of Candidates and much valuable Statistical matter. Full of Facts. An Argument Settler. Pass them around. Price, 10c per copy, postpaid; $1.00 per dozen, postpaid. Send your order at once to

ALONZO E. WILSON, Room 823—153 La Salle St., Chicago, Ill.

Please mention Bee Journal when writing

Yellow Sweet Clover Seed

WE HAVE IT AT LAST!

We have finally succeeded in getting a SMALL quantity of the seed of the YELLOW variety of sweet clover. This kind blooms from two to four weeks earlier than the common or white variety of sweet clover. It also grows much shorter, only about two feet in hight. It is as much visited by the bees as the white, and usually comes into bloom ahead of white clover and basswood. We offer the seed as a premium

A QUARTER POUND FOR SENDING ONE NEW SUBSCRIPTION.

So long as it lasts, we will mail a quarter pound of the seed to a regular paid-up subscriber who sends us ONE NEW subscriber for the American Bee Journal one year, with $1.00; or ¼ pound by mail for 30 cents.

We have been trying for years to secure this seed, and finally succeeded in getting it. It is new seed, gathered last season by an old personal friend of ours, so we know it is all right. But we have only a small supply. When nearly out we will mention it.

GEORGE W. YORK & CO.,
118 Michigan St., - CHICAGO, ILL.

PATENT WIRED COMB FOUNDATION
Has no Sag in Brood-Frames.
Thin Flat-Bottom Foundation
Has no Fishbone in the Surplus Honey.
Being the cleanest is usually workt the quickest of any foundation made.
J. A. VAN DEUSEN,
Sole Manufacturer,
Sprout Brook, Montgomery Co., N.Y.
Please mention Bee Journal when writing.

BEE-SUPPLIES!
☞ Root's Goods at Root's Prices ☜
POUDER'S HONEY-JARS and everything used by bee-keepers. Prompt Service—low freight rate. Catalog free. WALTER S. POUDER, 512 Mass. Ave., INDIANAPOLIS, IND.
Please mention Bee Journal when writing

Belgian Hare Guide AND DIRECTORY OF BREEDERS. Price 25c
Inland Poultry Journal Co., Indianapolis, Ind.
Please mention Bee Journal when writing

Please mention the Bee Journal when writing Advertisers.

nies of bees, but tho I run them exclusively for extracted honey, they swarm. In the fall I unite heavily. I aim to do all the uniting for a single apiary in a single day, throwing the combs on the ground some distance from the hive, as I unite them. At first they act wild, later they become quiet, and by-and-by gentle, and can be brusht off the combs on which they are at work with the hand without any danger of attack. Towards evening the combs are all ready to be stored away. But it might not work as well with one not used to it.

M. V. FACEY.

Fillmore Co., Minn., Oct. 6.

Bees Did Well this Year.

My bees have done very well this summer, and are in fine condition for wintering. I shall winter about 200 colonies this year.

I get the Bee Journal every week right on time, and always save it for Sunday evening. It is bright and newsy, and full of little items of interest, and I enjoy it very much.

My specialty is the rearing of bees for the use of farmers. I always advise those to whom I sell bees—where they ask for advice as to the care of them—to take a year's subscription of the American Bee Journal, read it carefully, follow directions, and I will guarantee they will be all right in their care of the bees.

CHARLES A. HOLMES.

Suffolk Co., Mass., Oct. 8.

One of the Common Asters.

I send you a sample of some flowers that are in full bloom here. If they had not bloomed the bees would all have starved to death.

JOHN CRAIG.

Macoupin Co., Ill., Oct. 1.

(We referred the above to Prof. Walton, who replies as follows:—EDITOR.)

Of the autumn nectar-bearing flowers, the asters are dearer to the apiarist's heart than almost all others, and happy is the bee-keeper who is fortunate enough to live in a district that is unfortunate enough to be overrun with these weeds. The asters are hardy plants, and will thrive anywhere if left to themselves, especially in waste pasture-land or open wood-lots. While the average farmer regards them with an evil eye, and wishes them well out of his way, they possess one redeeming quality precious in the sight of bees. Altho the honey obtained from the asters is not of the very best, it is nevertheless abundant and good for wintering purposes.

The specimen you sent is the Aster ericoides, and is found very abundant in the middle and western States.—C. L. WALTON.

The Pasteboard Queen-Cage.

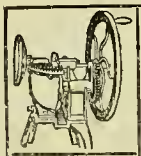
Seeing that the Root Company has been so successful with the queen-cage with cardboard over the food instead of a cork, I want to give my experience in that line.

My premium queen from Dr. Miller came in such a cage, without a dead bee in the cage, and I congratulated myself on having received one queen in fine shape. Out I went to my queenless colony to introduce her to her new home and family. I opened the hive, took a frame from the side, spread the others to make room for the cage to hang between them, and lookt for the cork to remove, when, lo! there stared me in the face a piece of cardboard full of small holes, and on it were printed very plainly the words, "Do not remove; see directions." So the directions were carefully read, and the same words greeted me there, "Do not remove the card; the bees will gnaw thru and liberate the queen in two or three days." Thinks I, "That's a new wrinkle; but it must be right for it came from Dr. Miller, so here goes."

Well, being busy, and supposing the queen was out, I did not open the hive again for ten days, and what was my surprise to find the cardboard untoucht, the bees in the cage all dead, and the queen badly daubed and feeble. I at once liberated her, the bees started to clean her up, and I closed the hive. Now my queen is gone. In order to make sure that I did not overlook her, I ran the bees all thru a queen-guard, but no queen was found, so I have doubled that colony in with another.

The next time I get a queen in a cage with cardboard on there will be a separation between them before the queen goes into the hive. I will go on record as the one percent that made a failure with the cardboard on the cage.

Winona Co., Minn. L. J. CLARK.



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Egg Record Book Free.

Our new free catalogue contains a 12-page egg record, enabling you to keep track of what your hens do. It also describes the Humphrey Green Bone and Vegetable Cutter guaranteed to cut more bone in less time and with less labor than any other cutter made. Your money back if you're not satisfied.

Humphrey & Sons, Box 5e, Joliet, Ills.

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GINSENG—Book all about it 4c. Tells how to grow this great money maker. Write to-day. AMERICAN GINSENG GARDENS, Rose Hill, N. Y.

38E8t Mention the American Bee Journal.

BEES QUEENS Smokers, Sections, Comb Foundation And all Apiarian Supplies cheap. Send for FREE Catalogue. E. T. FLANAGAN, Belleville, Ill.

Please mention Bee Journal when writing

Another American Triumph.—The following letter has been received at West Chester, Pa., by Mr. P. M. Sharples, manufacturer of the Sharples Cream Separators, and will give great pleasure to thousands of Mr. Sharples' friends and users of his machines. Of course this recognition of merit was quite confidently expected, but the assured fact is a great satisfaction. We congratulate Mr. Sharples and his associates, including the humblest workman on his pay roll, whose combined efforts have deserved this noteworthy award:

U. S. DEPT. OF AGRICULTURE,
BUREAU OF ANIMAL INDUSTRY, DAIRY DIVISION
WASHINGTON, D. C., Aug. 27, 1900.

MR. P. M. SHARPLES, West Chester, Pa.

DEAR SIR:—It gives me pleasure to inform you that we have just received from Major Henry E. Alvord, Chief of this Division, and now in charge of the U. S. Animal Industry Exhibit at the Paris Exposition, a partial report of awards on dairy machinery and products in the U. S. Collective Exhibit, which states that the Cream Separators sent by YOU HAVE BEEN AWARDED THE GOLD MEDAL.

Very respectfully, R. A. PEARSON,
Acting Chief of this Division.

Please mention Bee Journal when writing advertisers.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Oct. 8.—The receipts of all kinds of honey are lighter than usual at this season of the year. The market is steady with no advance probable, as prices are now at a point that is curtailing consumption. Fancy white brings 16c; No. 1, 15c, and good white but travel-stained or irregular in shape, 13@14c; amber, 10@12c; dark, 8@10c. Extracted, white clover and basswood, 7½@8c; amber, 7@7¼c; buckwheat and other dark grades, 6½@6¾c. Beeswax, 28c. R. A. BURNETT & CO.

KANSAS CITY, Oct. 10.—Market steady; 24-pound section-cases, $3.25 to $3.40; 12-pound cases, $1.60 to $1.80 for fancy white; No. 1 amber, 13@14c per pound. Extracted honey, light color, 7½@8½c; amber, 6@7c. Beeswax, 25@30c.

W. R. CROMWELL PRODUCE CO.,
Successors to C. C. Clemons & Co.

BUFFALO, Oct. 11.—Market decidedly strong and active, as demand exceeds supply of fancy 1-pound comb, which is selling at 17@18c to-day; receipts small. Dark, 10@14c, as to grade. Beeswax, 25@33c, as to grade. BATTERSON & CO.

NEW YORK, Oct. 11.—Comb honey in good demand for all grades at 15@16c for fancy white; 13@14c for No.1 white; 12c for amber and 10@11c buckwheat. Hardly enough supply to meet demand. Extracted firm at 7@7½c for white, 6½@7c for light amber, 6c amber, and 5½c dark; good demand for Southern, basswood and clover. Beeswax quiet at 27c.

HILDRETH & SEGELKEN.

BOSTON, Sept. 21.—Our honey market is very strong at the following prices, with supplies very light: Fancy one-pound cartons, 17c; A No. 1, 15@16c; No. 1, 15c; No. 2, 12@13c. Extracted from 7½@8½ cents, according to quality.

Can see no reason why these prices should not be well maintained right thru the season.

BLAKE, SCOTT & LEE,

CINCINNATI, Sept. 21.—The demand for fancy comb honey is good and finds ready sale at 16@16½c; No. 1, 15c. The demand for extracted honey at present is slow and offer same by the barrel as follows: White clover, 8½@9c; Southern, 6½@7½c; Florida, 7@8 cents, according to quality. Beeswax, 27c.

The above are MY SELLING PRICES. I do not handle any honey on commission, but pay spot cash on delivery. C. H. W. WEBER.

ALBANY, N. Y., Sept. 22.—Demand good, now at firm prices; White comb, 15@16c; mixt white, 13@15c; amber, 12@13c; buckwheat, 11@12c. Extracted, white, 8@9c; mixt white, 8@8½c; amber, 7@7½c; buckwheat, 6@6½c. H. R. WRIGHT.

DETROIT, Oct. 6.—Fancy white comb, 15@16c; darker grades, 11@12c. Extracted, white, 8@9c; amber, 5@6c. Beeswax, 26@27c.

No demand at present for extracted.

M. H. HUNT & SON.

SAN FRANCISCO, Sept. 26.—White comb, 13@14 cents; amber, 11½@12½c; dark, 8@9c. Extracted, white, 7½@8c; light amber 6¾@7¼c; amber, 5½@6½c. Beeswax, 26@28c.

Market presents a healthy tone, being lightly stockt with all descriptions, with inquiry not lacking, even for most common qualities, altho choice to select naturally commands the most attention.

WANTED—HONEY AND BEESWAX.

We have a tremendous and growing trade in this line, and would like to hear from all who have such goods to sell in any part of the country, with quality, description, and lowest cash price. THOS. C. STANLEY & SON, Fairfield, Ill.

Wanted To Buy Honey

What have you to offer and at what price?

33Atf ED WILKINSON, Wilton, Wis.

Chicago.—The regular semi-annual meeting of the Chicago Bee-Keepers' Association, will be held in Wellington Hall, 70 N. Clark Street, Saturday, Nov. 3, 1900, from 2 to 5 in the afternoon, and 7 to 9 o'clock in the evening. Dr. C. C. Miller will probably be present. The regular annual election of officers will occur. The general subject for discussion will be reports on the season's work. All bee-keepers are requested to send questions by mail to the President. Mr. George W. York, who will assign them to others to be answered. Ladies are especially invited to be present.

GEORGE W. YORK,
MRS. N. L. STOW,
HERMAN F. MOORE, } Executive Committee.

We have a Large Stock on hand and can ship promptly.

SEND US YOUR ORDERS FOR

Hives, Extractors

OR ANYTHING YOU WANT IN THE BEE-KEEPING LINE.

WE MAKE ONLY THE BEST.

Our Falcon Sections and New Process Foundation are ahead of everything, and cost no more than other makes. New Catalog and copy of THE AMERICAN BEE-KEEPER free. Address,

THE W. T. FALCONER MFG. CO.,
JAMESTOWN, N. Y.

☞ W. M. GERRISH, East Notingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.

Please mention Bee Journal when writing.

SWEET CLOVER

And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white)	60c	$1.00	$2.25	$4.00
Crimson Clover	70c	1.20	2.75	5.00
Alsike Clover	80c	1.50	3.50	6.50
White Clover	90c	1.70	3.75	6.50
Alfalfa Clover	80c	1.40	3.25	6.00

Prices subject to market changes.
Add 25 cents to your order, for cartage, if wanted by freight.

GEORGE W. YORK & CO.
118 Michigan Street, CHICAGO, ILL.

☞ IF YOU WANT THE

BEE-BOOK

That covers the whole Apicultural Field more completely than any other published, send $1.25 to Prof. A. J. Cook, Claremont, Calif., for his

Bee-Keepers' Guide.

Liberal Discounts to the Trade.

CHEAP FARM LANDS

Located on the Illinois Central R.R. in

SOUTHERN ILLINOIS

And also located on the Yazoo & Mississippi Valley R.R. in the famous

YAZOO VALLEY

of Mississippi—specially adapted to the raising of

CORN AND HOGS.

Soil Richest IN THE World.

Write for Pamphlets and Maps.

E. P. SKENE, Land Commissioner,
Ill. Cent. R.R. Co., Park Row, Room 413,
24A24t CHICAGO, ILL.

Please mention Bee Journal when writing.

FALL SPECIALTIES

Shipping-Cases, Root's No Drip; Five-Gallon Cans for extracted honey, Danz. Cartons for comb honey. Cash or trade for beeswax. Send for catalog. **M. H. Hunt & Son, Bell Branch, Mich.**

Please mention Bee Journal when writing.

23rd Year Dadant's Foundation. 23rd Year

We guarantee satisfaction.

What more can anybody do? BEAUTY PURITY, FIRMNESS, No SAGGING, No LOSS.
PATENT WEED PROCESS SHEETING.

Why does it sell so well?

Because it has always given better satisfaction than any other.
Because in 23 years there have not been any complaints, but thousands of compliments.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

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Langstroth on the Honey-Bee, Revised

The Classic in Bee-Culture—Price, $1.25, by Mail.

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AT ALL TIMES.

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Hamilton, Hancock Co., Ill.

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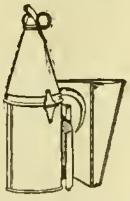

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BeeSmoker

made of sheet-brass which does not rust or burn out should last a life-time. You need one, but they cost 25 cents more than tin of the same size. The little pen cut shows our brass hinge put on the three larger sizes.

No wonder Bingham's 4-inch Smoke Engine goes without puffing and does not

DROP INKY DROPS.

The perforated steel fire-grate has 381 holes to air the fuel and support the fire.
Prices: Heavy Tin Smoke Engine, four-inch Stove, per mail, $1.50; 3½-inch, $1.10; three-inch, $1.00; 2½-inch, 90 cents; two-inch, 65 cents.

BINGHAM SMOKERS

are the original, and have all the improvements, and have been the STANDARD OF EXCELLENCE for 22 years. Address, **T. F. BINGHAM, FARWELL, MICH.**

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One-Pound Square Honey-Jars,

$5.00 a gross; 5 gross, $4.80 per gross.

WINTER-CASES, 10 for $7.00. CARTONS—the best made.
Catalog of Apiarian Supplies and Queens free.

Apiaries—Glen Cove, L.I. **I. J. STRINGHAM, 105 Park Place, New York, N. Y.**

Please mention Bee Journal when writing.

Four Celluloid Queen-Buttons Free

AS A PREMIUM

OUR TOIL DOTH SWEETEN OTHERS

OUR TOIL DOTH SWEETEN OTHERS

For sending us ONE NEW SUBSCRIBER to the Bee Journal for the balance of this year, with 30 cents, we will mail you FOUR of these pretty buttons for wearing on the coat-lapel. (You can wear one and give the others to the children.) The queen has a golden tinge.

This offer is made only to our present regular subscribers.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate, it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

Prices of Buttons alone, postpaid: One button, 8 cts.; 2 buttons, 6 cts. each; 5 or more, 5 cts. each. (Stamps taken.) Address,

GEORGE W. YORK & CO., 118 Michigan St., CHICAGO.

AMERICAN BEE JOURNAL

OUR TOIL DOTH SWEETEN OTHERS

GEORGE W. YORK,
Editor.

CHICAGO, ILL., OCTOBER 25, 1900.

FORTIETH YEAR
No 43.

WEEKLY

MASSACHUSETTS
AGRICULTURAL
COLLEGE

LANGSTROTH

Langstroth Monument at Dayton, Ohio, Erected by Bee-Keepers.

THE AMERICAN BEE JOURNAL.

PUBLISHT WEEKLY BY
GEORGE W. YORK & Co.
118 Michigan St., Chicago, Ill.

[Entered at the Post-Office at Chicago as Second-Class Mail-Matter.]

IMPORTANT NOTICES:

The Subscription Price of this journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50c a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "Dec00" on your label shows that it is paid to the end of December, 1900.

Subscription Receipts—We do not send a receipt for money sent us to pay subscription, but change the date on your wrapper-label, which shows you that the money has been received and duly credited.

Advertising Rates will be given upon application.

Reformed Spelling.—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

The Bee-Keeper's Guide

Or, Manual of the Apiary,

—BY—

PROF. A. J. COOK.

460 Pages—16th (1899) Edition—18th Thousand—$1.25 postpaid.

A description of the book here is quite unnecessary—it is simply the most complete scientific and practical bee-book publisht to-day. Fully illustrated, and all written in the most fascinating style. The author is also too well-known to the whole bee-world to require any introduction. No bee-keeper is fully equipt, or his library complete, without THE BEE-KEEPERS' GUIDE.

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Scientific ⁂ Queen-Rearing,

as practically applied, describes and illustrates a method by which the best Queen-Bees are reared in perfect accord with Nature's ways. It is written for the amateur and veteran in bee-keeping, by Mr. G. M. Doolittle, the leading queen-breeder of the world.

Index to the Chapters of the Book.

—o—

Importance of Good Queens; Nature's Way of Rearing Queens; Another of Nature's Way; Old Methods of Rearing Queens; Later Methods of Rearing Queens; New Way of Rearing Queens; Getting the Bees off the Cells; What to do with the Queen-Cells; Queen-Cell Protectors; Nuclei—How to Form; Nuclei—How to Multiply; Bee-Feeders and Bee-Feeding; Securing Good Drones; Introduction of Queens; Introducing Virgin Queens; Keeping a Record of Cells, Queens, Etc.; Queen-Register; Clipping the Queen's Wings; Shipping, Shipping-Cages, Bee-Candy, Etc.; Queens Injured in Shipping; Quality of Bees and Color of Queens; Rearing a Few Queens; Later Experiments in Queen-Rearing; Latest Feats in Queen-Rearing.

Bound in cloth, price $1.00, postpaid; or we will mail it **FREE** as a premium for sending us **TWO NEW** subscribers to the American Bee Journal for one year, at $1.00 each; or for $1.60 we will mail the book to any one and credit a year's subscription on the American Bee Journal. Address,

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Extracted Honey For Sale

ALL IN 60-POUND TIN CANS.

ALFALFA HONEY*******

This is the famous White Extracted Honey gathered in the great Alfalfa regions of the Central West. It is a splendid honey, and nearly everybody who cares to eat honey at all can't get enough of the Alfalfa extracted.

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This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms in Wisconsin. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

Prices of Either Alfalfa or Basswood Honey:

A sample of either, by mail, 8 cents; samples of both, 15 cents—to pay for package and postage. By freight—one 60-pound can, 9½ cents per pound; two cans, 9 cents per pound; four or more cans, 8½ cents per pound. Cash must accompany each order. If ordering two or more cans you can have half of each kind of honey, if you so desire. This is all

ABSOLUTELY PURE BEES' HONEY,

The finest of their kinds produced in this country.

Read Dr. Miller's Testimony on Alfalfa Honey:

I've just sampled the honey you sent, and it's prime. Thank you. I feel that I'm something of a heretic, to sell several thousand pounds of honey of my own production and then buy honey of you for my own use. But however loyal one ought to be to the honey of his own region, there's no denying the fact that for use in any kind of hot drink, where one prefers the more wholesome honey to sugar, the very excellent quality of alfalfa honey I have received from you is better suited than the honeys of more markt flavor, according to my taste. C. C. MILLER.
McHenry Co., Ill.

Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

Address,
GEORGE W. YORK & CO., 118 Michigan St., Chicago, Ill.

ESTABLISHT IN 1861
AMERICAN
THE OLDEST BEE-PAPER IN AMERICA
BEE JOURNAL

40th YEAR. CHICAGO, ILL., OCTOBER 25, 1900. No. 43.

Editorial.

The Honey Crop of 1900, it seems, will be quite well cleaned up before next spring. The honey of the past two seasons has found a very ready market. This has been a very good thing for those who have been so fortunate as to have secured a crop. There is no good reason why the fair prices at which honey sells now should not be maintained right along, no matter if the future crops should be larger again. Honey should always be worth the price it is now bringing in the markets, and will be if it is properly handled.

One of the chief reasons why honey is bringing a better price almost universally, is because it is being handled more and more by a better class of dealers—or by dealers who pay cash and get cash for it. Some of the honey-commission men of the past have been a great damage to the producers of honey. They not only defrauded many bee-keepers, but kept the price of honey down for all by needlessly sacrificing what was sent to them to handle.

We believe that the end of the old commission frauds is very near. Bee-keepers and farmers are fast learning—tho by dearly bought experience—that there are still a few dealers left in our large cities who are honest, and who will do the right thing by their shippers. Our own experience in dealing in honey on a cash basis has been eminently satisfactory—that is, in all cases where the bee-keeper or shipper has wanted only what was fair and right. Of course, there are a few people even among bee-keepers, who need to be less economical of the truth, and square their consciences by the Golden Rule. The commission men have not always and invariably been in the wrong. Not by a 60-pound can full of honey! We have witnest instances where the bee-keeper was really trying his best to "work a game" on the commission man. But the "game" never workt in that way. We would never think of trying to get ahead of even the ordinary kind of commission men. They are too keen ever to be caught by any scheme.

The only way to do business is to do it honestly. No other way will last very long, or be at all satisfactory. The sooner men come to learn that there are some things in this life of greater value than the dollar, the sooner will the time be here when it will be a genuine pleasure to do business. Now it is too often the case that one man is trying to get ahead of the other—trying to get up in the world by using his neighbors as so many steps to tread upon. That is not the way to rise permanently. One may rise in that way for a while, and to a dizzy hight, but it would be too dangerously dizzy, and too great would be the disastrous "come down" that must soon follow.

Let us all deal honestly, giving value for value; then, if we prosper, well and good. If not, we can fail honorably, and still merit the esteem of all whose esteem is worth having.

◆

Haul Bees Home Early.—If this is your first year's experience with an out-apiary, and you are of those who must haul home bees to winter in the cellar, you may make the mistake of delaying unwisely the home-bringing. So long as bees are gathering, even if only a little every day, it is better to have them as widely distributed as possible. But when all gathering ceases, the sooner the hauling is done the better. The bees should have time to get off the effects of the excitement caused by their ride, and should have at least one good flight before going into the cellar.

◆

The Langstroth Monument.—Thru the courtesy of Gleanings in Bee-Culture we show on our first page this week an excellent picture of the granite monument erected by appreciative bee-keepers to the memory of the Rev. L. L. Langstroth—the father of improved American bee-keeping. It is located in Dayton, Ohio, and cost $300.

The inscription, which is somewhat indistinct in the picture, reads as follows, having been written by Hon. Eugene Secor, who did much to secure the necessary funds for the erection of the substantial memorial stone:

INSCRIBED TO THE MEMORY OF
REV. L. L. LANGSTROTH,
"FATHER OF AMERICAN BEE-KEEPING."

by his affectionate beneficiaries in the Art; who, in remembrance of the services rendered by his persistent and painstaking observation and experiments with the Honey-Bee, his improvements in the Hive, and the charming literary ability shown in the first scientific and popular book on the subject of Bee-Keeping in the United States, gratefully erect this monument.

Rest thou in peace. Thy work is done.
  Thou hast wrought well. Thy fame is sure.
The crown of love, which thou hast won
  For useful deeds, shall long endure.

We are glad that the Langstroth monument is in place. It lookt for some time as if bee-keepers were a little apathetic in regard to it, but it has been only about five years since Father Langstroth past over to his eternal home. Many a prominent public man who left this world waited much longer for the erection of a permanent and appropriate shaft to mark the resting-place of all that was mortal about him.

Bee-keepers have done well; tho perhaps there was no absolute need of the stone to aid his living in the memory of a grateful people, as his consecrated life and abundant labors must ever be a greater and more lasting monument than one of crumbling granite that now stands in yonder cemetery.

We trust that some day there will arise an inspired writer who will undertake the loving task of writing a volume on Father Langstroth's devoted life—a volume that will find a place in the home of every bee-keeper.

◆

Winter Stores in Belgium are rated a good deal more heavily than in this country. L. Pirson, in Le Rucher Belge, says it has been proven repeatedly that for native bees the minimum allowance is 44 pounds, while Italians, because of their greater activity in brood-rearing, must have at least 55 pounds. In this country many are satisfied with half that amount; and no distinction is made between the amounts given to blacks and Italians. Possibly it would be the part of wisdom to make such distinction. Mr. Pirson claims that the extra amount needed for Italians is well paid for in the extra amount of brood reared in early spring.

◆

Unsalable Sections may be profitably used to piece out winter stores. One way in which they may be used is to fit them into the brood-frames. If the frame is too small to take eight sections easily, take off the side or bottom of some of the sections to bring them within the required compass. Trim off the edges of the sections, so the wood will not project beyond the comb, unless you have plain sections, when no such trimming will be necessary.

◆

Candied vs. Liquid Honey.—Chalon Fowls has ably championed the practice of selling extracted honey in the liquid form, melting it for the grocers as fast as it became candied, and has used the forceful argument that by so doing he has obtained a high price for his honey. In a foot-note to an article by him in Gleanings in Bee-Culture, the editor sums up the subject in the following dispassionate manner:

> This whole question, when simmered down, stands about this way: The general public are suspicious of candied honey. Now, honey will candy. Considering this fact, Dr. Miller, R. C. Aikin, *et al.*, argue that the public may be and can be educated to the wholesomeness and purity of honey in the solid form; then, if perchance the liquid article while in the market, or in the home, shall turn cloudy or solid, no suspicions will be aroused as to its

purity or wholesomeness. In Mr. Aikin's locality consumers will take the candied honey as quickly as they will that in a liquid form, and pay as much money for it. Why? Because he has *educated* them on that point. You, Mr. Fowls, have educated your trade to nothing but the very best of liquid extracted. Your practice and belief have almost been forced on you by the fact that your customers will have nothing but ripe, thick extracted honey; but, methinks, you might personally show to some of the consumers that here, for example, is a honey candied solid that is of the same lot as that in the jar, beautifully transparent, and so tempting to the eye. If you went one step further, and said some people like the candied article better, you might be able to get them to buy some of both. If I mistake not, Mr. Aikin started out on this very plan until now a large part of his retail trade not only receives, but *expects*, candied honey, for they know they can easily reduce it to a liquid condition by following the directions on the pail.

Now about the man who sells at double prices. At the time of making the statement I tried to place emphasis upon the fact that one can, if he has gumption enough, get double price, providing he takes pains to sell *ripe, thick* honey of first quality, and no other. When the consumers learn that Fowls always sells a fine article, and that Jones sells the cheap, disagreeable, twangy stuff at half of Fowls' price, they will patronize Fowls every time, even tho he does ask "double prices." Of course, the phrase sounds bad; but the man who is alive and awake to the opportunity presented, and who puts out a first quality of thick honey, has a right to charge for his honey twice as much, for it is *really cheaper* than the honey of the other fellow, who puts out a cheap, inferior, watery article. Yes, sir; I have great respect for the "double-price" man when he gives me double-price value.

◆

Ontario Bee-Keepers' Asssociation will meet at Niagara Falls, Dec. 4, 5 and 6. This will make it convenient for many from this side of the line to be in attendance. The Ontario has moved to the front in the matter of conventions, the time being largely taken up with discussions of the most profitable kind. Success to our Canadian brethren.

◆

Treatment of Foul Brood. — Askt whether it is necessary that the supers should come off the hives after the starters are put in, Wm. McEvoy thus replies in the Canadian Bee Journal:

"All supers must be kept off the hives until you have the bees most thoroly cleansed of all the diseased honey which they took out of the old combs when you removed them. To cleanse the bees, remove all the combs in the evening in the honey season, and give them nothing but comb-foundation starters, which you will leave with the bees for four days. During these four days the bees will use up the most of the diseased honey in comb-building, and will store the balance of it in the little pieces of new combs. Then in the evening of the fourth day take out these new combs (which the bees made out of the starterrs), and give them full sheets of comb foundation, and when the foundation is made into combs you will find complete cures in all cases that have been cleansed this way.

"After the honey-flows are over, or at any time that the bees are not gathering honey, this same cleansing process can be carried out, and perfect cures made, by feeding sugar syrup in the evenings. I have had hundreds of colonies cured in this way, and fed up for winter on sugar syrup, and the most of these cured colonies gave good yields of honey the following season. Never put supers of extracting-combs on right after you put the starters in the brood-chamber, because if you do the bees will rush up and store all the diseased honey in them, and then you will still have diseased honey on hand to cause you trouble later on."

The Weekly Budget

Mr. A. L. Boyden, secretary of The A. I. Root Co., made us a short call Oct. 12th. He had been spending a week's vacation among relatives in Michigan, and was on his way home.

◆

Miss Ada L. Pickard, of Richland Co., Wis., wrote us as follows Oct. 13:

"Mr. York:—You will remember that while at the National convention last August I told you that I had sent direct to Italy for a lot of queens. Well, they have come, have been introduced, and are in fine condition. They are much better than the imported queens that ——— ———send out. It seems as if those I sent for could not have been as long coming over from Italy as the one ——— ——— sold me, as they were much younger. The bees have superseded the imported queen I got from ——— ———, or else she died from old age. I feel as if she was quite an expensive article. I think next season I will be in a position to send out some good stock."

◆

Editor W. J. Craig is making a very neat-appearing and interesting monthly of the Canadian Bee Journal. Every Canadian bee-keeper should subscribe for it in addition to the weekly American Bee Journal. It would be difficult for any one really interested in the keeping of bees to have too much literature on the topic. There is not a bee-paper publisht to-day that is not well worth its subscription price. Of course, it would be natural for us to recommend first of all the taking of the American Bee Journal. But after that, take just as many more as you feel that you can afford. Then study carefully whichever ones you take, in connection with one or more good books on the subject.

◆

Ideal Woman.—In one of her addresses at Chicago, Lady Aberdeen said she thought the ideal woman had been sketcht by Lowell in one of his beautiful poems:

For with a gentle courage she doth strive,
In thought, in word, in feeling so to live
As to make earth next Heaven; and her heart
Herein doth show its most exceeding worth,
That, bearing in her frailty her just part,
She hath not shrunk from evils of this life,
But hath gone calmly forth into the strife,
And all its sins and sorrows hath withstood
With lofty strength of patient womanhood.

◆

Spelling Reform finds a strong champion in the person of Hon. Frank E. Fitts, a member of the Massachusetts legislature. Mr. Brooks D. Cook, of that State, has sent us a clipping from a local newspaper, which says that Mr. Fitts introduced a bill looking to the change of spelling certain words whenever they appear in State documents. It aims simply at dropping useless letters. Mr. Fitts wisely says:

"The legislature can not make people use the improved method of spelling, but it can put the words before them, so that they will get used to their appearance and see the gain, and will soon come to use them.

"The statement is made 'that the irregular spelling of the English language causes a loss of two years of the school time of each child, and is mainly the cause of the alarming illiteracy of our people; that it involves an expense of hundreds of millions of dollars annually for teachers, and for writing and printing superfluous letters, and that it is an obstacle in many ways to the progress of those speaking the English language, and to the spread of the language among other nations.' We form societies, hold meetings, and work day and night to reduce the hours of labor for the working people. Why should we not be a little interested in reducing the labor of our own children? Should the legislature see fit to adopt the resolution, I have no doubt the improved spelling would be taken up by more papers and individuals, and finally by all."

We are glad to welcome Mr. Fitts as a co-laborer with the American Bee Journal in endeavoring to simplify the spelling of the English language. This needed reformation will come only by degrees until all the necessary changes in spelling are made.

We notice that the Nickel Plate railroad time tables now use "thru" for through—the same as we do. We are glad to see the general public take hold of this reform. Many of our own correspondents are doing nicely, as is shown by the letters we receive daily. Spelling reform is going to be a winner. Better join the procession, or you'll "get left."

◆

Mr. H. D. Burrell, of Van Buren County, Mich., seems to be having some trouble with a neighbor, about his bees trying to save certain peach-juice going to waste. The following "special" item appeared in the Chicago Record of Oct. 18th:

"One of the most peculiar suits at law ever brought before any court is soon to be tried in Van Buren Co., between two neighbors and old friends. One of the men, H. D. Burrell, keeps about 60 colonies of bees. The other is a peach-grower. A few weeks ago the latter complained of the former's bees destroying his early Crawford peaches, claiming that the bees came into his orchard in large numbers, bit holes in the fruit and rendered it unmarketable, for which he demanded $200. Prof. J. M. Rankin, of the Agricultural College, and the entomologist of the Agricultural Department at Washington, will be called as expert witnesses by the defense in a suit for damages."

We hope Mr. Burrell will send us a report of the matter after the decision is rendered.

◆

Bees in Warfare.—An exchange says history records two instances, according to Mr. Whitely Stokes, in which bees have been used in warfare as weapons against besieging forces. The first is related by Appian of the siege of Themiscyra, in Pontus, by Lucullus in his war against Mithridates. Turrets were brought up, mounds were built, and huge mines were made by the Romans. The people of Themiscyra dug open these mines above, and thru the holes cast down upon the workmen, bears, and other wild animals, and hives or swarms of bees.

The second instance is recorded in an Irish manuscript in the Bibliotheque Royale at Brussels, and tells how the Danes and Norwegians attackt Chester, which was defended by the Saxons and some Gallic auxiliaries. The Danes were worsted by a stratagem; but the Norwegians, sheltered by hurdles, tried to pierce the walls of the town—when, "what the Saxons and the Gaedhil, who were among them, did was to throw down large rocks, by which they broke down the hurdles over their heads. What the others did to check this was to place large posts under the hurdles." What the Saxons did next was to put all the beer and water of the town into the caldrons of the town, to boil them and spill them down upon those who were under the hurdles, so that their skins were peeled off. The remedy which the Locheans applied to this was to place hides outside on the hurdles. What the Saxons did next was to throw down all the bee-hives in the town upon the besiegers, which prevented them from moving their hands or legs from the number of bees which stung them. They afterward desisted and left the city.

Convention Proceedings.

Report of the Proceedings of the 31st Annual Convention of the National Bee-Keepers' Association, held at Chicago, Ill., Aug. 28, 29 and 30, 1900.

BY DR. A. B. MASON, SEC.

(Continued from page 662.)

SECOND DAY—AFTERNOON SESSION.

The afternoon session was called to order by Pres. Root, after which Miss Ethel Acklin sang a song, entitled, "My First Music Lesson."

Pres. Root—The next thing we have on the program is a paper by Mr. Herman F. Moore, on

BEE-KEEPERS' RIGHTS AND THEIR PROTECTION BY LAW.

As an axiom it may be stated that apiarists have as many rights as ordinary citizens, and as many more as they can discover in the constitution of the United States and the common law.

In the statutes of the United States, and of the different States, very few laws are found favoring bee-keeping in particular over any other occupation. Lawmakers try to make the laws cover all possible cases of a particular kind, hence are most general in their terms of command or prohibition.

Bee-keepers have, in common with others, a right to "life, liberty, and the pursuit of happiness," or business in their own peculiar way, subject always to the equal rights of others. This "rights of others" has been the stumbling-block in the way of many of our fraternity. The legal construction of "rights of others" has made all the litigation, from the beginning, on all matters.

Herman F. Moore.

There is in the minds of many people who don't keep bees, and know nothing of their habits, an insane fear of a bee-sting, for themselves or their children. A bee-keeper settles in their vicinity, and perhaps makes no effort to be agreeable, or to show his pets, and their harmless little ways. A child, a cow, or a horse, is stung, and the neighbor instantly puts on his war-paint, and vows the banishment of all bees and bee-keepers from his neighborhood. Even during this month one of our members has been brought into court, charged with maintaining a nuisance. On this the Illinois law says:

"It is a public nuisance to throw a dead body in a public place or water, to corrupt a river or lake, etc.; to obstruct navigable waters; to obstruct highways, etc.; to make explosives within 20 rods of a building; to advertise on fences, etc.; to carry on any trade, employment or manufacture, which, by offensive smells or otherwise, is offensive or dangerous to the health of individuals or of the public."

As bees are ordinarily kept, I am of the opinion that no action would lie under any of these different heads against a bee-keeper.

But suppose a bee-keeper was so ignorant, or careless or malicious as to drop honey about the apiary in a time of scarcity, or handle his bees in such a way as to cause robbing and continual stinging of people and animals passing by, it seems very probable that such a case could be abated under this last clause of the public-nuisance law.

The next phase of the matter is private nuisances. This is where only a private individual is annoyed or injured, and not the general public. This is an entirely separate head under our laws.

The attempt, as usually prosecuted, has been to show that bee-keeping, *ipso facto*, was a nuisance, and to be abated as a matter of course. In such cases the bee-keepers have been almost uniformly victorious, for the general rule is, a private nuisance is a matter of fact for the jury to decide.

Bee-keeping of itself is not necessarily a nuisance, but may become such by an objectionable method of managing bees. So may keeping hogs, dogs, horses, cows, etc., be or become a nuisance by an objectionable or offensive manner of caring for them, or nearness to those who may be annoyed or injured by them.

The principal case upon which bee-keepers rely is entitled, "City of Arkadelphia, Arkansas, against Z. A. Clark," in the supreme court of Arkansas, June 22, 1889. The city of Arkadelphia past an ordinance forbidding bee-keeping within the city limits, and arrested Mr. Clark for keeping bees, declared a nuisance by the ordinance. The supreme court said, among other things, "Bees may become a nuisance in a city, but whether they are so or not is a question to be judicially determined in each case."

In some of the States laws have been past prohibiting the spraying of fruit-trees in bloom. The poison solution kills the bees working on the bloom, and experiments seem to prove that the enemy is not destroyed by spraying at that time. The interests of bee-keepers and fruit-growers are almost identical, and the time will come when their community of interest will be recognized by the laws of all our States.

It must be borne in mind that all our States are independent of each other in making laws. If bee-keepers are to be protected just laws must be made in all the States. The only bearing the Arkansas case has in Illinois is that courts generally respect the decisions of sister States about any matter not adjudicated there. But they have no binding force.

As to foul-brood laws, the same may be said—the good law they have in Wisconsin does not help us in Illinois. Bee-keepers must look after their own interests as jealously as other occupations guard theirs. If the thousands of bee-keepers in Illinois had been united on the question of our need of a foul-brood law, the much-needed law would now be on the statute-books.

One of the most important rights that bee-keepers insist on, is to be paid for honey shipt to dealers and commission merchants in our large cities. Bee-keepers in common with other farmers have tempted the city sharks by being such an easy prey. You must be methodical; have your bargain in writing; save the envelop covering your correspondence; look up the standing of a purchaser in Dun or Bradstreet; write a personal letter to a banker enclosing a stampt envelop for reply, asking about the party.

If you sell on commission, it is larceny not to account. If you sell to the dealer direct, he can say collections are bad, or go into bankruptcy. If by the correspondence and other evidence you can make out a fraud, one of the best ways to prosecute is for using the mails to defraud, and Uncle Sam is very prompt and severe in such cases; but that doesn't get your honey back, or the money for it.

It seems as if the one precaution of asking a banker for the name of a reliable dealer would almost entirely prevent losses.

Bear well in mind that the laws protect best those who don't go to law. To illustrate: Big corporations pay big fees to lawyers to keep them out of trouble, out of court. Don't dash in recklessly, and then hire an expensive lawyer to get you out of trouble. Rather pay in advance for some good advice on any given doubtful point.

Don't imagine that there is any such thing as law made easy for the people in one small volume. You might just as well expect bee-keeping made easy in six short lessons of one hour each.

One of the burning questions of the day is how to prevent the fraudulent sale of adulterated honey and imitations of honey. A pure-food commissioner and a corps of assistants to help enforce the law seems to work well in Ohio. Constant inspections of sales of honey and other foods, and analyses followed by prosecutions, are necessary to prevent fraud, and control in any degree the operations of the mixers.

A pure-food law has just gone into effect in Illinois. A pure-food commissioner, an assistant, a chemist and a number of inspectors, have been appointed under the law, and efforts are being made to enforce the law. As far as I am informed no prosecutions for frauds in honey have been begun, but it has been only about two months since the law went into effect.

Bee-keepers should work as one man for good pure-food statutes in all the States. They are on the winning side, for all the people are for pure food by instinct.

Every bee-keeper, as well as every citizen, can aid this good work by reporting to the proper authorities, with a sample purchast, every case of violation of the law.

A well-known bee-keeper says that when a man deeds land he does not convey the honey in the flowers. Why? One reason may be that he can not deliver it. It would seem to be elementary that you can not sell anything you can not deliver. This question opens up a big field in more ways than one. What are the rights of the first bee-keeper in any given locality? Has he any rights that the later arrival is bond to respect?

This matter of overstocking any given locality is sure to be more and more interesting as people increase in numbers per square miles. Even now, in certain localities, specially favored with extraordinary honey-flows, there is danger of overstocking. As far as I know no law has been made touching this question. How would it do for counties to give a license to the first comer, for a certain number of colonies in a certain territory, rights assignable?

HERMAN F. MOORE.

SWEET CLOVER AS A WEED AND VALUABLE PLANT.

R. H. Longworth—What may we do to anticipate action by our legislature unfavorable to the growth of sweet clover? They have made the laws different in Iowa in the last year or two in regard to cutting the weeds in the highways; they call sweet clover a weed, and they fight it like we would rattlesnakes. They are now cutting it twice a year, and the law is made so now in regard to weeds, not only in the highways, but in other places, that no one need to be bothered, they say, with a weed growing on their neighbors' farms. All they have to do is to complain to the trustees of the township, and they will see that the weeds are eradicated from the man's farm. I look ahead and see the time coming that after the sweet clover is killed out of the highways and waste-places, if we want to have a ten-acre patch of sweet clover, I fear there will be a law against our growing it. What may be done to anticipate that kind of action by the legislature?

Pres. Root—You want to know how we can anticipate unfavorable legislation destroying the sweet clover that is so valuable to bee-keepers?

Mr. Longworth—On our farms.

Pres. Root—On the edges of them and the highways. Those who have been in our legislatures elsewhere perhaps know how to anticipate them.

N. E. France—In reply to that last question I would say that Wisconsin had sweet clover on the list of noxious weeds for a term of years. The bee-keepers, thru their associations, askt the legislature to take it off that list, and thru the reasons shown to the members of the legislature that it was not a noxious weed, it was removed. The next season, as I was out on my State work, among the first things I was called on in Milwaukee by a weed-warden. He ordered a field of sweet clover to be plowed as a noxious weed, the owner of the ground claiming that it was his land, and he had sown the crop for his bees; that the weed-warden had no jurisdiction in there, and he called on me as counsel. I askt the weed-warden to show me a copy of the law which he was serving; he showed it to me, and I said, "My dear, sir, why don't you execute the law of to-day? That law is four years old. The law to-day says sweet clover is not on the noxious weed list, and you have no jurisdiction." He submitted the question, acknowledged that he was executing a law that was old and dead, and we now have no such thing as sweet clover on the list of noxious weeds in Wisconsin. The only way we can accomplish anything is by joining together in societies.

Frank Coverdale—There is the point. In Iowa sweet clover is not yet counted a noxious weed in the law; it is not included. The law does not specify any noxious weed. It provides for the cutting of weeds, specifying nothing, but I fear that the law will in a few years specify sweet clover because there is such an enmity towards it now.

Rev. E. T. Abbott—Sweet clover is my pet, and I am in favor of having my pets preserved, and I don't think there is any danger or any occasion to be alarmed about sweet clover being declared a nuisance. I live right close to Iowa. We Missourians are given credit for asking to be shown everything and not knowing much. I have unbounded faith and confidence in the intelligence of the people who till the soil in Iowa. I don't think there is cussedness enough in Iowa in the 19th Century, verging on the 20th, to call sweet clover a nuisance, or to declare it a weed. If I wanted to guard against it, the way I would do it would be to call on the editors of some of the papers and ask them to say something about it, and thereby teach the people what sweet clover is, and some of its merits. The coming industry of the world—Belgian hares—will eat it right along without being taught. By the way, let me tell you how to cure sweet clover for hay, altho this is not a farmer's meeting. There isn't over one farmer in three hundred that knows how to cure sweet clover for hay. He thinks the sun ought to cure, but it burns it, it doesn't cure it. Let it cure itself. The leaves have pores, and the stems have not. There is no chance for moisture to evaporate out of the stems, but the leaves act like pumps, and they can pump the moisture out of the stems. If you want to cure sweet clover, and do it well so that it will be of some value as hay, don't cut it down and let the hot sun dry it; the hot sun immediately destroys the action of the pumps. Don't do that, but put it up in the shade so the winds can blow thru it. The leaves will keep green, and those leaves will go to work and pump the moisture out of the stems; and as soon as they get their work done the stems will be dry, and you will have hay that anything will eat, and that is the only way to make hay of any kind. Nine-tenths of the hay that comes into the markets in large cities is not fit for anything to eat. Any man ought to be ashamed to bring lots of it to market, yet the farmers are making that kind of hay all the time. You can't cure sweet clover any other way than by letting the leaves pump the moisture out of the stems; they are so large that it won't evaporate. The only thing necessary with sweet clover is to talk about it. I am writing about it all the time in the Modern Farmer—writing about it as tho I thought nobody on earth knew anything about it. The truth of the matter is, there are only a few people who do know about it. Kansans just found out the other day from the Kansas Farmer, that sweet clover hay is of some use; and the funny thing was, that men who are connected with the Kansas Farmer, who are interested in fine horses, got to discussing the matter with each other, and one of them said (and, by the way, I had been talking this very same way about sweet clover for six years, but it didn't do any good—didn't make any impression on them). Well, he said, "I cut some of that sweet clover the other day and gave it to my horse, and he ate it up. He is a kind of a fool horse, doesn't seem to have much sense, and he ate it right up." The other fellow replied, "My horse won't eat it." The first man then said, "When you go home, cut some of the sweet clover and cure it thoroly and give it to your horse, and see if he won't eat it." He did so, and what was the result. The next time he called on me he said, "I tried my horse on that. He is a horse that will eat almost everything, and, strange to say, he ate that entirely up and whinnied for more." They have just discovered over in Kansas that sweet clover is fit for something besides bees. It is the best thing for dairy cows outside of alfalfa; there is nothing grown to-day that will make so much milk for the amount of energy exerted as sweet clover; the man who lets a cow starve while there is a pasture of sweet clover makes a mistake. I know plenty of people who let their cows eat ragweed where they eat two inches into the dirt, and haven't brains enough to cut sweet clover for them. I think we will get them taught after awhile that sweet clover has some little value. It is a very nice thing to tell us *what* we ought to do; it is a great deal nicer to tell us *how* to do it. We have acres and acres in my locality, and we have the shade to cure it.

Dr. Mason—I wish Mr. Abbott would tell us how to make shade.

Mr. Abbott—If Dr. Mason doesn't know that the Almighty makes the shade more than half the year he would better find it out.

Dr. Mason—He hasn't done it in our locality this summer. We have had more sweet clover this year than ever before; we do cure sweet clover in our locality without shade. We have cured it right in the sun this summer; it makes first-class hay. One of our large farmers, who never knew it was good for anything until this summer, found it out because he couldn't help himself; he had ten acres of grass growing for the first season in many years in a field just over the fence from my apiary; he raised oats there last season, and the sweet clover came up, but *I* didn't sow it, and it was great big, nice, bunchy stuff, and his hired help said to him, "What are you going to do with this stuff?" He replied, "Rake it all up together." From the first load he took home he fed some to the horses, and they cleaned up the sweet clover before they ate the hay. He has a pasture of about 30 acres by the side of this meadow, with lots of sweet clover, but the horses and cattle keep it eaten close to the ground. A lady had the effrontery last week to tell me there would nothing on earth eat sweet clover. I took her over to the pasture fence, and I said, "Show me any sweet clover unless it is some where the cattle and horses can't get at it.

Mr. Abbott—Post the farm papers about this, and there is no danger of passing a law against it.

Dr. Mason—Dr. Besse, a bee-keeper in Delaware Co., Ohio, had several acres, and the township trustees cut it down, and he had a lawsuit with them, and was beaten. This Association helpt the Doctor run the suit.

Mr. Kretchmer—How does the bee-pasture come in when the cows eat it down?

Dr. Mason—Bee-pasture isn't worth as much as cow-pasture, but the sweet clover lasts only one year as pasture for stock.

A Member—I would like to ask Mr. Abbott at what stage he cuts sweet clover for hay?

Mr. Abbott—As it is coming into bloom. Without any joking about shade, you know the ordinary way is to spread hay out. The way to put it up is to put it in cocks immediately; as it is cockt, lay it up so the winds will blow thru it. They say down our way I am a city farmer; but there is a difference between cocking hay and spreading it out thin.

Mr. Kretchmer—In the city a pasture for the cows is more valuable than anything else. I sowed some sweet clover, alfalfa, and red clover, expecting the red clover would be eaten by the cows. The cows kept the sweet clover down to the ground, the alfalfa was next to the sweet clover, and the red clover was the only one that went to bloom. The sweet clover was eaten so much it never got over two inches high.

Dr. Mason—There isn't a better way to cure sweet clover for hay than Mr. Abbott has given us—pile it up.

Mr. Taylor—You never farmed it, did you Mason?

Dr. Mason—What do you know about it? *Yes, sir;* I was born and lived on a farm till I was 25 years old, and I have farmed it a good deal since then.

Mr. Taylor—I know from the way you say to cure hay. What struck me is how you are going to put it up light when it is green—you can't do it; I have cured a good deal of clover hay. I suppose you want to cure sweet clover hay the same as you would red clover. The right way to do it is to let it wilt; don't let the sun burn it up and let some of the moisture out; cock it up and get it as dry as you can without the leaves breaking at all or getting bitter; let it sweat. If it gets moist you have to turn it over to make real good hay.

Dr. Mason—Not in our locality. It wilts almost as soon as cut, and by the time a field is cut, what was first cut is ready to cock up.

M. M. Baldridge—I wish to say in regard to curing sweet clover for hay, that there is another plan they practice in Mississippi extensively. Sweet clover there is a farm crop, the same as oats or wheat, and is grown by people who do not keep any bees at all, from 50 to 100 acres on a farm. I have seen 75 acres on a single farm, and the way they cure sweet clover hay is this: They cut it, say to-day, and let it wilt until to-morrow, then put it into an air-tight barn and let it cure itself; let no air to it whatever; it will cure itself, and in the winter they have the finest hay for cows and milk that can be produced. The idea that it is clast as a noxious weed in the North is considered nonsensical by those farmers of the South.

(Continued next week.)

Queen-Rearing is a very interesting part of bee-keeping. Mr. Doolittle's book tells practically all about the subject. See the offer we make on the second page of this number.

Contributed Articles.

No. 3.—Interesting Notes on European Travel.

BY C. P. DADANT.

ON THE ATLANTIC, Sept. 24, 1900.

FROM Macon my intention was to have gone direct to Switzerland by way of Geneva, visit the most noted resorts of Switzerland, thence come back to Nyon, which, by the way, is not in France, as I see the dating of my letters induced you to believe, for I did not mark the name of the country from which I wrote. But Nyon is so close to France that it matters but little. It is on the shores of the Lake of Geneva, and about four miles from the French frontier, and there, as in Geneva, the inhabitants all speak the French language.

Having received an invitation to visit some of our American friends who live at Lyon, some of whom had crost the Atlantic with us, we concluded to go there from Macon for a couple of days, as Lyon is only about two hours' ride from the latter place.

The line follows the valley of the Saone which joins the Rhone at Lyon. These two streams have long been celebrated for the great contrast between them, and they have often been represented and pictured by poets, painters and sculptors as two human beings—man and woman. This comparison is very forcible, for the smaller stream—the Saone—is clear, quiet and pretty, running smoothly and noiselessly among vineyards in a beautiful valley, while the other—the Rhone—roars boisterously, swift and muddy between steep hills, among rocks and cliffs, tumbling along in apparent recklessness, and the union of the two, just at the lower end of the city, is a very pretty symbol of a human wedding.

At Lyon we admired the numerous monuments, conspicuous among which is the monumental fountain representing a woman driving four horses who throw a spray, or rather a mist, thru their nostrils. This gives them a wonderful appearance of life. We saw the new Catholic church, located on a hight 600 feet above the city, costing already some 50,000,000 francs, altho it is far from being completed. It will make a fine monument. We also visited the silk museum, which contains specimens of the best silk fabrics of all ages. Lyon is the city of silk, par excellence, and we were induced to make a visit among the looms, and admired the patience with which the finest patterns are woven.

Another of the curiosities of Lyon is the "Gros Caillou" (The Big Pebble). It is only a large piece of granite weighing perhaps 15 or 20 tons, but which had been brought on top of the highest hill, it is said, by the waters and floating ice of the glacial period. A public park has been made around it, and an inscription put on the stone, and the Lyonnese are exceedingly proud of their "pebble."

After two days at Lyon we reacht Geneva by the valley of Rhone, following the banks of the stream which foams between two hills, and at times appears as if it might be a full half mile beneath our feet. We now arrive in Switzerland, and as we pass thru the custom-house we notice that it becomes necessary again to change our watches, which we have already set forward a little over six hours in the trip between Illinois and France. The change between France and Switzerland, or, as they call it, between Western and Central European time, is 55 minutes. So we are now seven hours ahead of home time; that is, while we are eating dinner they are just waking up at home, for altho it is noon in Switzerland it is only 5 o'clock in Illinois.

Geneva is a beautiful place, half hotels, and the other half—boarding-houses. Perhaps I am overstating it, but it lookt to me as if not only in Geneva, but in many of the Swiss cities, the main business was taking care of the visitors. Geneva is renowned for its watch-making and jewelry industry, but it is specially known for its beautiful location, its fine lake, pleasant climate, and its view of Mont Blanc, which looks the more attractive because it is so far away, some 60 miles, I believe.

We remained in Geneva but a short time, and started out on our tour with the intention of running about for a week, so we left our trunk at the hotel and carried with us only a small satchel each. The smoking-car is most conspicuous in Switzerland, or rather the smoking compartment, which occupies about two-thirds of every railroad coach. In every direction you read the words "raucher" and "nicht raucher," (smoking and non-smoking). It would seem as if the non-smoking people were rather the exception. But there is no chewing.

This does not look much like an account of a bee-keeping trip, but the reader must remember that we can not find bee-keepers everywhere. We shall come across some of them by and by.

I can not leave the railroad question without making a comparison between our American railways and those of Europe. Our railroad coaches are far superior, in my mind, to anything that exists in Europe, for in many instances their "wagons," as they call them, are partitioned off into compartments without any passages, so that when you are shut up in one of them—ten persons in a compartment—you can not get out, and have neither drinking water nor water-closets, nor wash-stands, at your disposal. The better class of coaches, and especially the international coaches, are now made with a passage along one side of the car, and are provided with these necessaries of travel, and the Swiss cars are in this far ahead of the French, tho still inferior to our United States cars.

The excuse the Europeans give for their slowness in taking hold of the latest improvements, is the shortness of their trips, as compared with ours, and it is true that in four or five hours you can almost cross any of the European States. But if their coaches are inferior to ours, they make up some of the unpleasantness by the exquisite politeness and affability of most of their railroad employees, the excellence of their railroad beds, tracks, bridges, crossings, and railway stations. The politeness of their officials would perhaps be construed here as a useless waste of time and words. In America, when the conductor calls the passengers, he rings out a dry, "All aboard." The European conductor says, "Ladies and gentlemen passengers, come aboard, if you please." He hustles about to seat his passengers conveniently, and save them trouble. He takes your ticket with a bow and "Thank you," as tho you were doing him a favor.

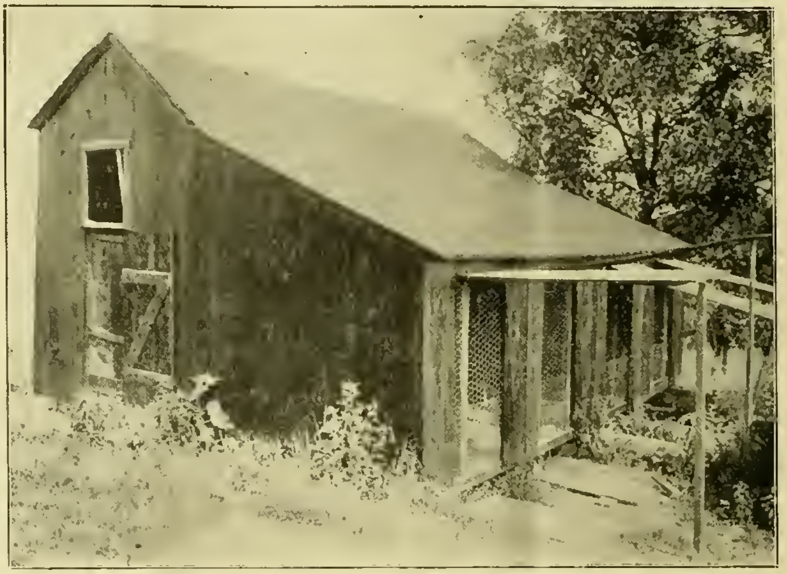
Our American travelers seem to be everywhere. We did not get into a single Swiss coach without hearing English spoken, and American English at that, tho the true "Hinglishman" is also very conspicuous. The hotels, the public roads, the mountains of Switzerland were swarming with English-speaking people, and the little flower-girls always addrest us in our own language.

There are three classes on all railroad trains, except international fast trains, which are usually composed only of first and second class coaches. Second-class is good enough for anybody, and third-class is used almost altogether by the laboring people, or those who wish to travel very cheaply. The difference between the classes is in the upholstering of the coaches and the softness of the springs, but especially in the price, which varies from a little less than two cents per mile to over three cents, first-class being just about double third-class prices.

But the classes are not confined to railroad trains, you find them in the waiting-rooms, and in the tramway-coaches, and even in the railroad dining-rooms. The same piece of butter sells for a higher price in the first-class dining-room than in the third-class.

We had been told that traveling in Switzerland was very expensive. We did not find it so. The hotel fares compare very favorably with the fares of America; and as to railway travel, we bought what they call an "abonnement"—a subscription, or, in other words, a pass in second-class—over all the railroads of Switzerland, for two weeks, at a cost of $8.40. This does not include the inclined-plane railways that ascend the mountains, but it covers the Brunig Pass incline, and the lakes of Thun and Brienz for boat travel.

The American Fruit and Vegetable Journal is just what its name indicates. Tells all about growing fruits and vegetables. It is a fine monthly, at 50 cents a year. We can mail you a free sample copy of it, if you ask for it. e club it with the American Bee Journal—both for $1.10.



Exterior View of a Belgian-Hare Shed.

Belgian Hares and Bees as a Combination.

BY JOHN R. SCHMIDT.

BELGIAN hares in California, Belgian hares at home, on the farm, in the city, everywhere, and we now read of them in the newspapers! Never has a fad spread with such great rapidity, or found such universal favor among so large a number of people. The craze has invaded Chicago, so says the Cincinnati Commercial Tribune, and the exorbitant prices now paid for blooded stock has tempted many into the business, and rabbits are being bred everywhere. Already a prominent society girl of Chicago is raising them on an extensive scale, has realized a big profit in the business, and proved in the early start that the fair sex can not be left behind in this new adventure.

The keeping of Belgian hares in connection with bees now seems to be attracting universal attention among the apiarists of this country, and already there is some talk of establishing departments on this subject in the apicultural journals. [But not in the American Bee Journal.—EDITOR.]

It is not a bad idea for bee-keepers to have something else besides the bees, which will afford an additional income, but not all things will hitch with bee-keeping, and "more bees," as has been suggested, does not always prove to be the worst way to solve this ever-increasing question of importance. Bees may be added until one finds his time fully occupied during the busy season, then any additional increase after this, in the hope of financial returns, would be a very uncertain and unwise move for the hope of betterment. What the bee-keeper is really looking for is something that will occupy his time during the winter months, or when bees need no attention—not that which will increase his work when he is most busy with his bees. This, whatever it may be, will be discovered sooner or later, and we can look forward to the time when our apicultural journals will be devoting space equally among two distinct pursuits, but perfectly adapted to the bee-keeper. At present we are only guessing, and trying to discover what pursuit will be best adapted to the wants of the modern apiarists. Belgian hares have been suggested, and they now hold the lead, with more points in their favor than anything else heretofore tried, and stand a good chance of winning.

Only a few bee-keepers at present keep Belgian hares in connection with their bees, but it has been proven that it will be profitable with at least many who will undertake it. This number is rapidly increasing, not only among bee-keepers, but in almost every rank of life, and in the many different professions. To start right in anything is half the battle, and to start right in the Belgian-hare business is what we are just now seeking. Experience is always the best teacher, and years of experience by a bee-keeper in the Belgian hare and bee-keeping lines combined, ought to be of some value to those bee-keepers who are about to launch forth.

Mr. Chas. Roebling, a bee-keeper, and also manager of the Ohio Belgian Hare Farm, has kept about 35 colonies of bees for a number of years, and was one of the first among those who combined the two pursuits profitably. He has an ideal country home, and a bee-location that many would envy. But the hare part of the business is what we want now, so I will endeavor to make things plain from his valuable talk and experience.

The first and most important thing is to construct a shed which will be rain-proof, rat-proof, wind-proof, and easily cleaned. One like the picture shown herewith combines many things of importance, and is cheapest in the long run. Good, *dry*, clean quarters are very important if not essential to success. Having accomplisht this, very little trouble will be encountered. Belgian hares can not stand a draft, but must have plenty of ventilation. This is accomplisht by having the south side of the shed, which, according to inside construction (see view of interior) is one end of each hutch; this is left open and covered with poultry-netting, and in turn is covered, or may be at will, with a one-half cover which covers up the lower half of the netting, thus keeping everything cool and well ventilated without any draft on the rabbits. There is also a rising hinged cover which may be let down, and this makes a solid wall, when all is closed, almost air-tight, and leaves no place where rats may enter at night.

The size of the shed must be governed by the number of hares one intends to keep. A shed 15x30 feet, arranged like this one, will accommodate from 50 to 100 hares; but old hares must be kept separate, and this requires some additional room. A leaky roof can not be tolerated—it should be absolutely rain-proof, or it will be impossible to keep things nice and dry inside. A roof covered with felt or tarred paper is probably best, and, if painted occasionally, will last a lifetime.

Now let us examine the interior, which we see is partitioned off into numerous hutches, about 2½ feet wide and 6 feet long. Boards on edge form the base, and extend up about 16 inches, then it is continued up with the netting to within 5 or 6 feet, but this is not absolutely necessary. A 4-foot hight would probably answer all purposes, and allow more elbow-room. A suitable door forming an entrance to each hutch, a box large enough to admit a full-grown doe comfortably, and a small amount of clean straw, completes the arrangement of each abode; and now we are ready for the rabbits.

One corner of the shed may be left without these hutches, and serves a good place to keep feed, etc. It can also be used in an emergency for confining young hares, and just such a case introduced the hares shown in the photograph, which, by the way, are only 2½ months old, but as large as a good-sized cat.

Under no circumstances should two old bucks be allowed in this enclosure at one time. They are worse than game roosters, and always looking for trouble among themselves. This should be watcht closely, and a good idea is to alternate them in the confinements, first a buck and then a doe, but never two of a kind side by side. Even thru one-inch poultry-netting they will bite and claw at each other, and this generally proves serious if not discovered in time.

Procuring *good* stock in the beginning, and the prevention of in-breeding by introducing new blood from time to time, will overcome many of the little troubles which would be encountered.

The Belgian hare is a very clean animal in its habits, and the more we can do to allow it to carry out its instincts by keeping its abode sweet and clean, and, above all, perfectly dry, the better success we are assured.

A good start can be procured by buying a trio of known good stock from a responsible breeder. Of course, the price will be governed by the purse, but something good can be purchast at $35 to $50 a trio, and as each mother has a nestful of young creatures every month, the profit realized from the sale of this blooded stock at the present high prices may be well left to the imagination.

I do not wish any one to overestimate the profits which may be derived from this business, for surely there will be a surplus soon, with so many going into the business; but at present nothing is thought of paying $25 for a good buck, and many are being sent from California every day even at a higher price.

The advice of many is to get good stock at a moderate price, and this the bee-keeper will do well to follow, and leave the extra-fancy stock, with its accompanying high price, strictly alone, for it is the bread-and-butter side to be lookt upon in this case, and breeding for market and table use will be the thing to be considered, and not the show-room with its uncertain results.

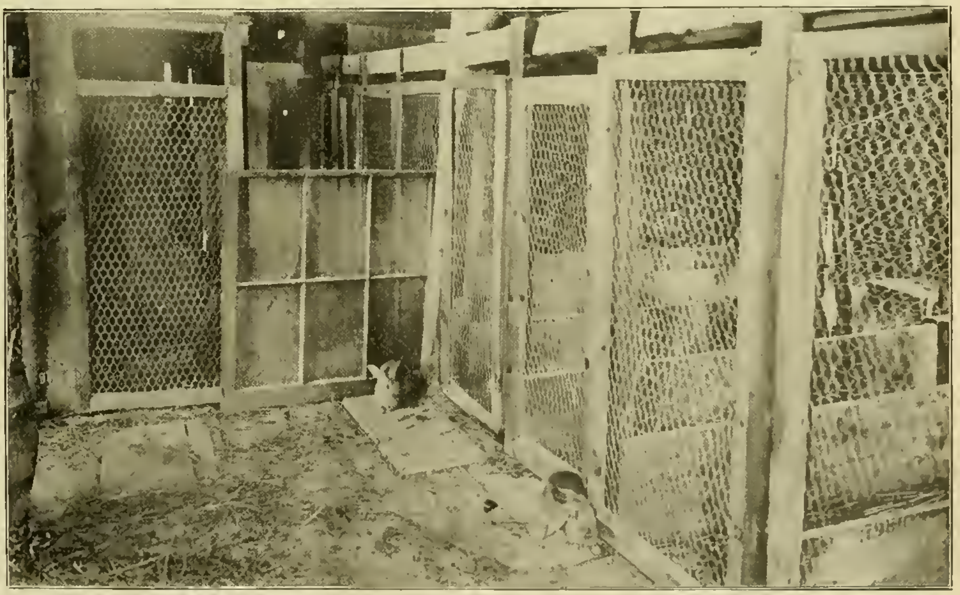
Before closing this article I would like to say that the information (?) I have endeavored to give to the readers was received from a talk with Mr. Roebling, and, outside of what I have written, I am totally uninformed, and know about as much of Belgian hares as the average newspaper reporter does about bees. I have tried to avoid anything which would mislead, and only give a few facts resulting from the practical application of the business by some one else, and I think these may be safely followed with good results.

Honey-Vinegar—How to Make a First-Class Article.

BY MRS. A. J. BARBER.

USE about one pint of honey to the gallon of water (you will soon be able to tell by the taste when it is sweet enough). Put it into a keg or barrel with a good, tight head, and leave a hole not larger than one inch for ventilation. Keep it in a warm place, and put in some good vinegar or yeast to start it. After it gets to working, draw off a pailful now and then and pour it back; or if you have more than one keg, pour from one to another. It helps new vinegar to put old vinegar into it; but it spoils the keeping qualities of the old vinegar to put fresh vinegar into it.

We save all the washings from the extractor, tank, strainers, and cappings for vinegar. We wash the cappings by pouring warm water thru them again and again, until about all the honey is out of them. They are then rinst by pouring a pail or two of cold water thru, when they are in fine shape for the wax-extractor. The water is all put into the vinegar-barrels. It took us two years to get really good vinegar from the start in new barrels. Now that we have our old sour barrels and good vinegar to start with, we can get good vinegar this season from last year's washings. For the last four years we have made from four to twelve barrels each year. We have twelve for market this year, and now at the last of July four new ones coming on for next year. We expect to make several more before the season closes. Each barrel should be cleaned every other year. Unless this is done the "mother" will begin to decay and break up, making the vinegar flat in taste, and muddy in color. The barrels that we started vinegar in



Interior View of a Belgian-Hare Shed.

this spring had the sweet water put in with the remnant of last year's salable vinegar. Next spring the vinegar in them will be drawn off and put into clean barrels to keep until sold. When we get an order for a barrel of vinegar, we draw off again and put into a clean barrel. By this time there is but little "mother" forming, as the vinegar is ripe and will keep indefinitely.

We have a house specially for our vinegar. It is a double-wall frame, with a 10-inch space between walls, packt with sawdust. The ceiling is covered with several inches of sawdust, and the vinegar keeps nicely all winter. We put the barrels into the house in November, and take them out in April. They stand in the sun all summer.

When we take them out we find which barrel has the best vinegar. The vinegar is drawn off and put into a clean barrel. The head is then taken out of the one just emptied, and it is well scrubbed with water and a stiff broom. When clean it is reheaded, and the contents of the next best barrel drawn off and put into it. Thus the barrels are cleaned and the vinegar put in shape for market. We have a long low bench or platform for the barrels, where they stand in two rows. The first barrel drawn off is placed at the east end of the south row. That is No. 1, as it is the first to be ready to sell from. The next barrel drawn off being next best, is placed next to No. 1 on the row, and is No. 2. So we go on till we get to No. 12. When we sell a few gallons from No. 1 we draw from No. 2 and replenish it; draw from No. 3 and fill up No. 2; from No. 4 and fill No. 3, until we have gone thru and left the empty place in No. 12. When No. 12 is empty, or nearly so, we fill it with sweetened water again, and it makes No. 1 for next year. Nothing helps so much to make vinegar clear and sparkling and sharp as the working from one barrel to another. It seems to act like kneading on dough. It sounds, to tell of it, like a lot of work; but, really, when one has good faucets in all the barrels it doesn't take long to run a few pailfuls from one to another of the whole lot. I try to get at mine once a month, and oftener when we sell a large quantity.

Our neighbors come to get honey-vinegar in preference to the cider-vinegar at the stores. We have kept some in the stores, but have never had enough to supply them yet. We use all kinds of refuse or waste honey, such as broken combs and dark, unfinisht sections, and this year we had about 300 pounds of dark, strong honey that came from weeds before alfalfa bloom. That will go into the vinegar next year if I don't need it to feed my bees in the spring.

I believe the secret of success in the bee-business lies in looking after every part of the business, and saving everything produced; and what can not be marketed as first-class honey should be turned into first-class vinegar.

I have been askt if honey-vinegar will keep pickles. I have put up quantities of them in the last three years, and have never lost any, but have sold a great many, both of whole and mixt pickles. We are using mixt pickles now that were put up last August, and they are as firm and brittle as they ever were. If the vinegar is old enough, and has been properly handled, it is of the very best quality for pickling, or anything else that vinegar is used for.—Gleanings in Bee-Culture.

Montezuma Co., Colo., August, 1900.

Printed Paper Sacks Not Poisonous. The editor of Gleanings in Bee-Culture commends the plan of feeding given in this journal by Mr. Kernan (by means of paper sacks), but thinks him mistaken in supposing that the printing on the sacks killed bees, as printing-ink is not poisonous to human beings. He says:

> Mr. Kernan thinks that some of his bees were poisoned by the printing-ink on the side of the sack. I can not think that that had anything to do with it—that the dead bees, if any, were robbers that had stolen their way thru the entrance, and, on being discovered, were killed by the inmates of the hive. During robbing time robbers are quite apt to work themselves thru the entrances of fed colonies, and be found in and about any kind of feeder, dead, whether there is printing-ink about it or not; but the idea of using paper sacks is quite ingenious, and I see no reason why it would not work very nicely.

Destroying Queen-Cells to prevent swarming is by no means reliable; still it may be depended upon to some extent according to a Stray Straw in Gleanings in Bee-Culture, which reads:

> I've more faith than formerly in killing queen-cells to prevent swarming. A number of colonies did not swarm this summer after having queen-cells killed once, twice, or three times. Some had swarming delayed two to four weeks by the killing of queen-cells. But generally only eggs were in the cells where destroying them made any difference. If an egg was destroyed in a cell, and a week later a queen-cell was found with a grub in it, it was not much use to make any effort to thwart them.

York's Honey Calendar for 1900 is a 16-page pamphlet especially gotten up to create a demand for honey among should-be consumers. The fore part was written by Dr. C. C. Miller, and is devoted to general information concerning honey. The latter part consists of recipes for use in cooking and as a medicine. It will be found to be a very effective helper in working up a home market for honey. We furnish them, postpaid, at these prices: A sample free; 25 copies for 30 cents; 50 for 50 cents; 100 for 90 cents; 250 for $2.00; 500 for $3.50. For 25 cents extra we will print your name and address on the front page, when ordering 100 or more copies at these prices.

* * *

Belgian Hare Breeding is the title of a pamphlet just publisht, containing 10 chapters on "Breeding the Belgian Hare." Price, 25 cents, postpaid. It covers the subjects of Breeding, Feeding, Houses and Hutches, Diseases, Methods of Serving for the Table, etc. It is a practical and helpful treatise for the amateur breeder. (See Mr. Schmidt's article on page 680.) For sale at the office of the American Bee Journal. For $1.10 we will send the Bee Journal for a year and the 32-page pamphlet on "Belgian Hare Breeding."

* * *

"The Hum of the Bees in the Apple-Tree Bloom" is the name of the finest bee-keeper's song—words by Hon. Eugene Secor and music by Dr. C. C. Miller. This is thought by some to be the best bee-song yet written by Mr. Secor and Dr. Miller. It is, indeed, a "hummer." We can furnish a single copy of it postpaid, for 10 cents, or 3 copies for 25 cents. Or, we will mail a half-dozen copies of it for sending us *one new* yearly subscription to the American Bee Journal at $1.00.

* * *

The Chicago Convention Picture is a fine one. It is nearly 8x10 inches in size, mounted on heavy cardboard 10x12 inches. It is, we believe, the largest group of bee-keepers ever taken in one picture. It is sent, postpaid, for 75 cents; or we can send the American Bee Journal one year and the picture—both for $1.60. It would be a nice picture to frame. We have not counted them, but think there are nearly 200 bee-keepers shown.

* * *

Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Upon receipt of $1.00 for your Bee Journal subscription *a full year in advance*, we will mail you a Wood Binder free—if you will mention it.

* * *

Please send us Names of Bee-Keepers who do not now get the American Bee Journal, and we will send them sample copies. Then you can very likely afterward get their subscriptions, for which work we offer valuable premiums in nearly every number of this journal. You can aid much by sending in the names and addresses when writing us on other matters.

* * *

Queenie Jeanette is the title of a pretty song in sheet music size, written by J. C. Wallenmeyer, a musical bee-keeper. The regular price is 40 cents, but to close out the copies we have left, we will mail them at 20 cents each, as long as they last. Better order at once, if you want a copy of this song.

* * *

The Premiums offered this week are well worth working for. Look at them.

A Close and Exciting Election!

Which will be Elected?
How many Votes will he Get?

⁂

Send 25 cents for a three months' subscription to the

Farm, Field and Fireside

CHICAGO,

McKinley

and a chance in the

Prize guessing contest for $5,000 in cash,

Bryan

which will be awarded to those coming the nearest to the official figures of the popular vote cast for the successful presidential candidate.

The Publishers' Guarantee Association has deposited $5,000 in the Metropolitan National Bank, Chicago, Ill., for the purpose of paying these prizes, under strict conditions preventing its use for any other purpose.

First Grand Prize, $2,000,

to the nearest guesser, and 197 more cash prizes to be awarded as follows:

To the nearest correct guess	$2,000.00
To the second	500.00
To the third	250.00
To the next 5, $50.00 each	250.00
To the next 40, $25.00 each	1,000.00
To the next 50, $10.00 each	500.00
To the next 100, $5.00 each	500.00
198 cash prizes	$5,000.00

TO AID GUESSERS:

McKinley's popular vote in 1896	7,107,304
Bryan's popular vote in 1896	6,533,088

Our Offer: We have made arrangements with the Publishers' Guarantee Association, of Chicago, to enable our subscribers and friends to participate in these great cash prizes. Every one is invited to participate, and for each three months' subscription to the Farm, Field and Fireside sent us, accompanied by 25 cents, a guess will be allowed. Those remitting 50 cents for six months' subscription will be allowed two guesses, and those remitting $1.00 for one year's subscription will be allowed four guesses. This applies both to new subscribers and to renewals. Present subscribers can send in their guesses, accompanied by the money, and their subscription will be extended.

How to Guess: When you send in your subscription you make your guess. Be sure you write your name and address and guess as plainly as possible. As soon as we receive your subscription we will fill out and send you a certificate corresponding to guess made by you, which will entitle you to any prize that you may draw. Be sure and keep your certificate. We will file the duplicate with the Publishers' Guarantee Association. Every subscriber will receive as many certificates and have as many guesses as he sends subscriptions to Farm, Field and Fireside.

In case of a tie, or that two or more estimators are equally correct, prizes will be divided equally between them.

CUT THIS OUT AND SEND WITH YOUR SUBSCRIPTION.

My Candidate is ....

My Guess is ....

My Name is ....

Address..

....

⁂

This Contest will close November 5, 1900,

at 6:00 p.m., and awards will be made as soon as the official count is announced. Address,

FARM, FIELD AND FIRESIDE,
710 Masonic Temple,
CHICAGO, ILL.

Langstroth on... The Honey-Bee

Revised by Dadant—1899 Edition.

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains over 500 pages, being revised by those large, practical bee-keepers, so well-known to all the readers of the American Bee Journal—Chas. Dadant & Son. Each subject is clearly and thoroly explained, so that by following the instructions of this book one cannot fail to be wonderfully helpt on the way to success with bees.

The book we mail for $1.25, or club it with the American Bee Journal for one year—both for $1.75; or, we will mail it as a premium for sending us **THREE NEW** subscribers to the Bee Journal for one year, with $3.00.

This is a splendid chance to get a grand bee-book for a very little money or work.

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Muth's Square Glass Honey-Jars.
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DITTMER'S FOUNDATION Wholesale and Retail

This foundation is made by an absolutely non-dipping process, thereby producing a perfectly clear and pliable foundation that retains the odor and color of beeswax, and is free from dirt.

Working wax into foundation for cash, a specialty. Write for samples and prices.

A full line of Supplies at the very lowest prices, and in any quantity. Best quality and prompt shipment. Send for large, illustrated catalog.

GUS. DITTMER, Augusta, Wis.
Beeswax Wanted.

Rocky Mountain Bee-Plant Seed!

(*Cleome integrifolia.*)

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The A B C of Bee-Culture says of it: "This is a beautiful plant for the flower-garden, to say nothing of the honey it produces. It grows fromtwo to three feet in hight and bears large, clusters of bright pink flowers. It grows naturally on the Rocky Mountains, and in Colorado, where it is said to furnish large quantities of honey."

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BEEDOM BOILED DOWN

Getting Bees Ready for Winter.

The following discussion at the Ontario convention last winter, which is publisht in the last Canadian Bee Journal, is seasonable at the present time:

QUES.—Bees intended to be wintered in the cellar which are on their summer stands at present (Dec. 6th) with a rim of 3 inches filled with sawdust on top, would it be better to put them into the cellar right away, or leave them until they get another flight?

Mr. Hall—My answer to that is to put them in to-morrow if it is not freezing, and if it is freezing let them alone until they are thawed out; or get some hot water from the tea-kettle and pour it around the stands, so that the moving may be done without cracking. Never mind a flight; they have eaten nothing in the last few weeks to require it. If they are frozen down loosen them somehow and with as little jarring as possible. I like to put bees in when they are flying; the clusters are all loose; you will get a few stings. it is true, but very few. We do not break a cluster by putting them in; the cluster is already broken. They form a cluster when they go into the cellar.

Mr. Dickinson—I believe in putting them in early. Mine have been in about a month now, and, just as Mr. Hall says, there were lots to fly out, as they had not settled down to clustering.

Mr. Post—If bees have a rim of sawdust, as represented in the question, even zero weather will not do them any harm. I have about 200 colonies myself now in the same condition; I do not feel at all uneasy about them, altho as soon as the weather changes a little warmer I will take them in. The way my stands are built they will never stick.

Mr. Darling—My bees are not in the cellar yet, they are not packt with sawdust, but I can take them up quietly by putting them on a pair of sloops or bobs, and draw them when there is a little snow or on the bare ground, and when I get them to the house they scarcely know that they have been moved; sometimes they are all quiet when we get them into the cellar, and sometimes they stir about. Mr. Hall advocates loose bottom-boards. I raise up those that are loose, and loosen those that are not loose, propping the front of the hive off the bottom-board about an inch; I am not bothered with moisture. My bees last year were not put in until somewhere about Christmas. My reason for being so late was on account of sickness. However, I found my bees last spring came out drier and better on the average than they have for some years.

Mr. McEvoy—Let us hear from men who winter bees on the summer-stands, as to when they pack their bees.

Mr. Sibbald—I have not had very much experience in wintering outside. I have wintered some in that way for two or three seasons, and this season I

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packt them only a couple of weeks ago. I believe they would be better packt earlier, but I had not time to do it.

Mr. Saunders—As far as wintering outside, my hives are packt all summer; the only trouble I have in the fall is putting on the cushions, which I do about the last of September or the first of October. I askt this question. I winter the bees in my home yard in the cellar. After I had left for the West about the 1st of September last, they got some honey-dew for about a week or so, and I have been too busy to put them in since I came home, and I wanted to know whether it would be advisable to give them a flight on account of the honey-dew, or to put them in right away.

Mr. McEvoy—This is a serious thing. If he puts them into the cellar he will have to bring them out pretty early. Leave them out a little longer, and bring them in earlier, too.

Mr. Evans—I winter bees both in the cellar and outside. I packt some outside a couple of weeks ago in sawdust, clamping 8 or 9 of them in a 12-foot clamp. I usually take the sawdust in the spring and put it in the honey-house, so that it is perfectly dry. I can winter in the cellar without any loss whatever, unless from starvation, but I do not think the bees come on as well in the spring after they are taken out. I do not usually put them into the cellar until the middle of January; and I think it is wise to keep them out as long as possible and take them out as early as possible. My cellar is particularly dry; the room is just opposite the furnace so I can open the door and heat it, or close the door and cool it off. Instead of propping up the hives I simply slide the hives back so that they are a couple of inches behind the bottom-board. I don't put any cushions on top—just leave the ordinary quilt without loosening it. I set them around in rows, and they seem to

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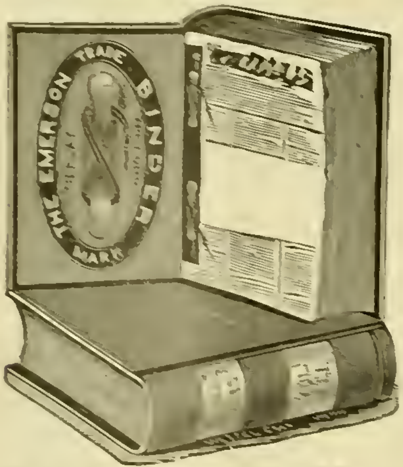

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The Marilla Incubator Co—We call attention to the advertisement of the Marilla Incubator Co., which appears elsewhere in this issue. Many of our readers know and have used this machine which has had a most successful record extending over more than 12 seasons. During the last year the company has removed to Rose Hill, N. Y., has built a large and completely equipt factory, and is out for business in earnest. Mr. H. H. Blackman, the inventor, is associated with the present company, of which Mr. W. E. Willis is secretary. Write the Marilla Incubator Co., at Rose Hill, N.Y., for catalog before buying an incubator. Please mention the Bee Journal when writing.

Chicago.—The regular semi-annual meeting of the Chicago Bee-Keepers' Association, will be held in Wellington Hall, 70 N. Clark Street, Saturday, Nov. 3, 1900, from 2 to 5 in the afternoon, and 7 to 9 o'clock in the evening. Dr. C. C. Miller will probably be present. The regular annual election of officers will occur. The general subject for discussion will be reports on the season's work. All bee-keepers are requested to send questions by mail to the President, Mr. George W. York, who will assign them to others to be answered. Ladies are especially invited to be present.

George W. York,
Mrs. N. L. Stow, Executive Committee.
Herman F. Moore,

Illinois.—The 10th annual convention of the Illinois State Bee-Keepers' Association will be held at the State House at Springfield, on Tuesday and Wednesday, Nov. 20 and 21, 1900. Railroad rates will be an open fare and a third without certificates. Notice will be given later if a better rate is secured. A good program is expected. Those who wish the full benefit of the meeting will have to be in attendance.

Jas. A. Stone, Sec.
R. R. No. 4, Springfield, Ill.

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winter all right. The only objection I have to that system is that they don't come along in the spring as well as those that winter out-doors. At the same time this is not a fair comparison, because I always put the light colonies in the cellar.

Mr. Hall—What time do you put them out in the spring?

Mr. Evans—Last spring I did not put them out until about April 1st, the year before about the middle of March.

Mr. Hall—If you have time, put them out on the 1st of March.

Mr. Newton—I am an out-door winterer, and I fixt mine up about one month ago. Bees that are wintered out-doors should be fixt up just as early as those that go into the cellar, and I think the sooner we get done with them and leave them to settle down quietly for the winter the better. If we keep disturbing them in the fall I think we will not have such a successful winter. Then, too, I winter them in separate cases. I used to winter four in a case, and I think it is a very good way and cheaper than single. I like either in angles or in four, but I do not care for clamps.

Mr. Armstrong—How much packing does Mr. Newton use?

Mr. Newton — Four inches on the side, and about 10 on top.

Mr. Armstrong—Is it necessary for 10 inches on top?

Mr. Newton—I won't say it is necessary to have 10 inches on top, but I like it.

Mr. McEvoy—What is that on top composed of?

Mr. Newton — Composed of forest leaves; I do not think there is anything to equal forest leaves unless it is cork sawdust.

Mr. Post—Do you pack them solid?

Mr. Newton—I don't make any solid work of it; I just throw them in. I do not think the solid packing is as good as loose packing; the frost goes thru solid packing sooner.

Mr. McEvoy—What is your packing composed of, Mr. Shaver?

Mr. Shaver—Wheat-straw, usually, but sometimes I use a little oat.

Mr. McEvoy—Have you seen any other packing than forest leaves used, Mr. Newton?

Mr. Newton—Yes; I've seen planer-shavings, sawdust, flax-leaves and cut straw, and I saw one place where they used rough papers torn up and thrown in.

Chocolate, Rolls, and Honey.

I have just returned from a European trip of 3 months. While it no doubt is not news to you, it was to me that the staple and universal breakfast meal thruout the Continent, with no exception, from Holland to Belgium, France, Switzerland, Italy, Austria, Germany, and even in the hotels of London, consisted of the regular breakfast of chocolate, coffee, rolls, and honey. Sometimes a marmalade would be substituted for honey. No meat is ever served for breakfast unless specially ordered.

With this breakfast our party, consisting of 44 people, thrived exceedingly, doing steady hard work traveling for 3 months, no one missing a meal, which seemed to me remarkable, as it convinced me that there must be more nourishment in honey than is commonly supposed. It was all extracted honey, and most of it would not compare favorably with our Northern State production in flavor, etc. The consumption of extracted honey must be very great there. I saw no comb honey.—H. R. Wright, in Gleanings in Bee-Culture.

To Clean a Smoker-Nozzle.

When the nozzle of your smoker becomes clogged and sticky with soot, squirt in with an oil-can a few drops of kerosene, and light with a match. In a few minutes the soot will be burned to a blister, when it can readily be scraped off with a knife, and your smoker will be as good as new.—Canadian Bee Journal.

Doolittle on Carniolan Bees.

They are natives of Carniola, and, if I am correct, they were imported into this country thru Mr. Frank Benton when he was in the Old World looking up *Apis dorsata*. Soon after their importation there seemed to be a great difference of opinion regarding them. Some extolled them very highly as comb-builders and honey-gatherers, while many more could give no words in their favor.

During the season of 1885 I procured a queen, said to be as good a Carniolan queen as there was in this country. But from a careful inspection of them for months I could not think otherwise than that they were a very peaceable strain of the black bee. They were said to be of a steel-blue color; but a close observation, with the two side by side, failed to reveal such color further than the black bee shows it. All the mark of distinction I could see was in their being great swarmers, while the blacks swarm only moderately.

I gave my experience with them, and and some thought I did not have Carniolans in their purity, so offered to send me a queen on trial. I accepted. and had queens from 3 other parties; but the latter revealed nothing different, except that two of them were mixt with the yellow races. They proved so inferior as honey-gatherers that I finally superseded their queens with Italians. The main trouble seemed to be that, as soon as the honey-harvest came on, they would go to breeding with "double diligence," and reared so much brood that the surplus gathered was consumed by the multitudinous brood. That others found them not so good as the Italians is proven by their having comparatively gone from notice, very few breeders of the present day offering them for sale.—G. M. Doolittle, in Gleanings in Bee-Culture.

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Bees and Honey, or Management of an Apiary for Pleasure and Profit, by Thomas G. Newman.—It is nicely illustrated, contains 160 pages, beautifully printed in the highest style of the art, and bound in cloth, gold-lettered. Price, in cloth, 75 cents; in paper, 50 cents.

Langstroth on the Honey-Bee, revised by Dadant.—This classic in bee-culture has been entirely re-written, and is fully illustrated. It treats of everything relating to bees and bee-keeping. No apiarian library is complete without this standard work by Rev. L. L. Langstroth—the Father of American Bee-Culture. It has 520 pages, bound in cloth. Price, $1.25.

Bee-Keepers' Guide, or Manual of the Apiary, by Prof. A. J. Cook, of the Michigan Agricultural College.—This book is not only instructive and helpful as a guide in bee-keeping, but is interesting and thoroly practical and scientific. It contains a full delineation of the anatomy and physiology of bees. 460 pages, bound in cloth and fully illustrated. Price, $1.25.

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A B C of Bee-Culture, by A. I. Root.—A cyclopædia of 400 pages, describing everything pertaining to the care of the honey-bees. Contains 300 engravings. It was written especially for beginners. Bound in cloth. Price, $1.20.

Advanced Bee-Culture, Its Methods and Management, by W. Z. Hutchinson. The author of this work is a practical and entertaining writer. You should read his book; 90 pages, bound in paper, and illustrated. Price, 50 cents.

Rational Bee-Keeping, by Dr. John Dzierzon.—This is a translation of his latest German book on bee-culture. It has 350 pages, bound in paper covers, $1.00.

Bienen-Kultur, by Thos. G Newman.—This is a German translation of the principal portion of the book called "Bees and Honey." 100-page pamphlet. Price, 25 cents.

Bienenzucht und Honiggewinnung, nach der neuesten methode (German) by J. F. Eggers.—This book gives the latest and most approved methods of bee-keeping in an easy, comprehensive style, with illustrations to suit the subject. 50 pages, board cover. Price, 50 cents.

Bee-Keeping for Beginners, by Dr. J. P. H. Brown, of Georgia.—A practical and condenst treatise on the honey-bee, giving the best modes of management in order to secure the most profit. 110 pages, bound in paper. Price, 50 cts.

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Apiary Register, by Thomas G. Newman.—Devotes two pages to a colony. Leather binding. Price, for 50 colonies, $1.00; for 100 colonies, $1.25.

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Poultry for Market and Poultry for Profit, by Fanny Field.—Tells everything about Poultry Business. 64 pages. Price, 20 cents.

HONEY AND BEESWAX

MARKET QUOTATIONS.

Chicago, Oct. 13.—The receipts of all kinds of honey are lighter than usual at this season of the year. The market is steady with no advance probable, as prices are now at a point that is curtailing consumption. Fancy white brings 16c; No. 1, 15c, and good white but travel-stained or irregular in shape, 13@14c; amber, 10@12c; dark, 8@10c. Extracted, white clover and basswood, 7½@8c; amber, 7@7¼c; buckwheat and other dark grades, 6½@6¾c. Beeswax, 26c.
R. A. Burnett & Co.

Kansas City, Oct. 10.—Market steady; 24-pound section-cases, $3.25 to $3.40; 12-pound cases, $1.60 to $1.70 for fancy white; No. 1 amber, 13@14c per pound. Extracted honey, light color, 7½@8½c; amber, 6@7c. Beeswax, 25@30c.
W. R. Cromwell Produce Co.,
Successors to C. C. Clemons & Co.

Buffalo, Oct. 19.—Honey is scarcer than for many years; in fact, just about none here, and would probably bring 19@20c. Arrivals are 9-10 dark, and low grade, but sell at 10@13 cents readily. No extracted here. Beeswax, 25@30c.
Batterson & Co.

Boston, Oct. 15.—Demand is good and market strong at the following prices, with supplies very light: Fancy one-pound cartons, 17c; A No. 1, 15@16c; No. 1, 15c; No. 2, 12@13c. Extracted from 7½@8½ cents, according to quality.
Can see no reason why these prices should not be well maintained right thru the season.
Blake, Scott & Lee.

Cincinnati, Sept. 21.—The demand for fancy comb honey is good and finds ready sale at 16@16½c; No. 1, 15c. The demand for extracted honey at present is slow and offer same by the barrel as follows: White clover, 8½@9c; Southern, 6½@7½c; Florida, 7@8 cents, according to quality. Beeswax, 27c.
The above are my selling prices. I do not handle any honey on commission, but pay spot cash on delivery.
C. H. W. Weber.

New York, Oct. 19.—During the past two weeks, receipts of comb honey have been quite extensive, several carloads of California and Nevada honey having arrived, and some large shipments of buckwheat, and for the present there is plenty of supply to meet the demand. We quote: Fancy white comb, 15@16c; No. 1, white, 14@14½c; fancy amber, 12½@13c; amber, 11@12c; buckwheat, 10@11c.
There are no new features in regard to extracted honey. The demand is fair at unchanged quotations. Beeswax dull at 27c.
Hildreth & Segelken.

Albany, N. Y., Oct. 19.—White comb, 16@17c; No. 1, 15c; mixt, 13@14c; buckwheat, 12@13c. Extracted, white, 8@9c; amber, 7@7½c; buckwheat, 6@6½c.
The market here is quite bare of comb honey, owing to the destruction of bees by foul brood. Honey is selling higher than for many years.
H. R. Wright.

Detroit, Oct. 15.—Fancy white comb, 15@16c; No. 1, 13@14c; amber and dark, 10@12c. Extracted, white, 7½@8½c; dark and amber, 5½@7c. Beeswax, 26@27c.
M. H. Hunt & Son.

San Francisco, Oct. 10.—White comb, 13@14 cents; amber, 11½@12½c; dark, 8@9c. Extracted, white, 7½@8c; light amber 6¾@7¼c; amber, 5½@6½c. Beeswax, 26@28c.
Several lots were forwarded outward the past week, aggregating over 300 cases, partly repackt, and including 100 cases in original packages, bound per sailing vessel for Liverpool. Local demand is fair. Values are being well sustained.

WANTED—HONEY AND BEESWAX.

We have a tremendous and growing trade in this line, and would like to hear from all who have such goods to sell in any part of the country, with quality, description, and lowest cash price. Thos. C. Stanley & Son, Fairfield, Ill.

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What have you to offer and at what price?

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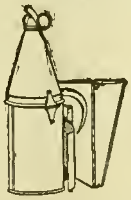

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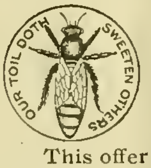
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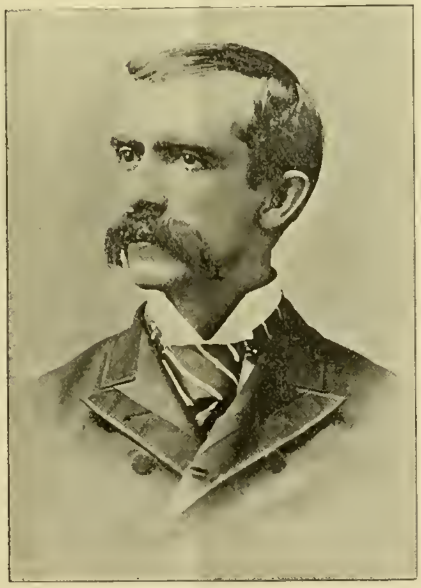
AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., NOVEMBER 1, 1900.

FORTIETH YEAR. No 44.

WEEKLY



J. M. HAMBAUGH, of California,
Director of the National Bee-Keepers' Association.

THE AMERICAN BEE JOURNAL.

PUBLISHT WEEKLY BY

GEORGE W. YORK & CO.

118 Michigan St., Chicago, Ill.

[Entered at the Post-Office at Chicago as Second-Class Mail-Matter.]

IMPORTANT NOTICES:

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AMERICAN BEE JOURNAL

THE OLDEST BEE-PAPER IN AMERICA

40th YEAR. CHICAGO, ILL., NOVEMBER 1, 1900. No. 44.

✻ Editorial. ✻

A Dishonest Honey-Shipper.—This may seem a strange and severe heading for an editorial, but it is a true one. We met him only about two weeks ago, one beautiful afternoon. He came to Chicago with his honey, just across Lake Michigan—from Ludington. He first went among the commission honey-dealers, and then called on us. He told us what he had at the freight depot, and wanted us to see it before buying.

We went with Mr. H. S. (Honey-Shipper), inspected his amber and white comb honey, and we both agreed perfectly on the price. He was to call at our office the next morning to accompany the man and wagon to get the honey. We had even agreed, upon his request, to send him the American Bee Journal for one year as a "to boot" for the honey.

We have not seen Mr. Honey-Shipper since leaving him that afternoon. He failed to report at our office the next day. What became of him and his honey?

Well, we learned later that he went to the freight depot the next day, paid the freight on the honey, and evidently had it delivered to some other honey-dealer, who, perhaps, offered him a quarter cent more per pound than the price at which he agreed to sell the honey to us, tho we were to pay him about a half cent more than another firm upon whom he said he had called before seeing us.

Bee-keepers are inclined to denounce the honey commission men, and seem often to try to show that all the blame is on their side. But here is a shining example of fraud and dishonesty on the part of a bee-keeper. We have heard of such cases before now. It was not so much that we were disappointed in not getting the honey that we had bought fairly and squarely, but to have such clear evidence that the young bee-keeper in question was dishonest, and evidently intended to be so.

We think it about time to "show up" the other side of the question of fraudulent dealing in honey, hence we have given the foregoing actual experience. We have purposely omitted the name of the shipper, as we don't wish to be too hard on him, tho he deserves to be given some free personal advertising.

We believe that business can be carried on successfully and yet honestly. No other way of doing business can possibly continue very long. And, then, aside from its sinfulness, what satisfaction is there in scheming to defraud one's fellow man? What a pity it is that it seems almost necessary in some cases to watch like a hawk lest you are deceived and beaten out of your very boots by those whom you have a right to expect will be the very soul of honor and uprightness! But the heart of man is desperately wicked, and highly deceitful, 'tis said, and very true it often is. Yet we believe there is a constant improvement going on generally. Those who have been existing by genteel theft and deception are finding it more difficult every day to work their schemes successfully. They are being detected and exposed as never before.

What is needed is a fearless and incorruptible public press that dares to warn the people against those who would get their living and fill their coffers by stealing from their fellows. But unless the good people will in return generously support such a public press, they will find very few who will feel like standing at the forefront to battle thus for them.

◆

Canadian Honey in Paris.—Mr. W. A. MacKinnon, of Ontario, in charge of the food products of Canada at the Paris Exposition, wrote the following in a letter which has been copied into the Canadian Bee Journal:

> On a six-sided stand, three stories high, is the display of honey, both liquid and granulated, in bottles of various sizes and shapes, arranged about the center of a mirror glass. The upper half of the lower story is fitted with glass panels, behind which comb honey is seen in squares just as it is sold. The upper two stories are separated only by a sheet of plate glass, which supports the apex of the pyramid, while resting on the tops of the bottles beneath. The effect is that of a solid cone of glass and honey, four feet high, offering almost no obstruction to the passage of light, which is transformed into the prettiest shades of amber and pearl. This exhibit is one of the most attractive and most admired. It is the climate of Canada in liquid and crystal, flowers, fragrance and sunshine, comprest into sweetness.

◆

Clipping Queens.—Editor Hill holds in contempt the manner in which queens are usually clipt, saying:

> The 20th century bee-keeper will smile at the thought of using scissors and such contrivances as the "Monette" device, and taking queens from the comb to clip them, as is yet advocated—and well he may.

Perhaps. And yet, Mr. Hill, don't sour on the world if you find the scissors still in use to a large extent in the 20th century. Some good bee-keepers after having tried both knife and scissors still prefer the scissors. Thanks, however, for very explicit instructions for those who want to try the knife in the coming century. The instructions are:

> An ordinary pocket-knife is the only tool necessary. It should have a razor edge. If the knife is not *very* sharp some pressure will be necessary in order to sever the wing; but with a very keen edge its own weight is sufficient to accomplish the work instantly, without danger of cutting the finger.
>
> Stand the frame upon which the queen is found against the side of the hive, or have it otherwise firmly supported in a convenient position. Do not attempt to catch the wing until the queen, of her own accord, assumes an upright position; that is, wait until she stands or walks with head upward, which she will soon do ordinarily. Now, with the knife in the right hand, and the thumb and index finger of the left lightly prest together, gently raise the tip of the left wing with point of finger, and with a rolling motion, caused by a slight contraction of the thumb and finger, engage the tip of the wing, and at the same instant cut off about three-sixteenths of an inch of the upper wing thus held. This is accomplisht by simply giving a slight stroke of the knife across the wing against the finger-tip without pressure.

◆

Feeding Medicated Syrup to Bees.—In the foreign bee-journals appear frequent reports of the cure of foul brood by means of this or that drug, but in this country the belief in such drug-cures has rather been discouraged. Now, however, Editor Root, of Gleanings in Bee-Culture, encourages, in regions where diseases of brood prevail, the use of some antiseptic of recognized value to medicate all syrups used. This is not as a cure, but a preventive. Possibly even a cure in the early stage of the disease. The editorial on this subject is so important that it is here given almost entire:

> Let it be understood that germicides, when introduced into the food in a quantity sufficiently diluted to be harmless to the bees and to the brood, will not kill the *spores* of either black or foul brood; but they will kill the *bacilli*, or living germs, that have developt from the spores, or, as we might say, from the eggs of the microbes. The only thing we can hope to accomplish by introducing the medicated feed to the bees direct is to kill the bacilli as fast as they develop from the spore state. The active principle of the disease in the spore is protected by a cyst, or thick coating, which, I have shown, will successfully resist the action of boiling water for an hour, or an hour and a half, at a time. This same coating will also resist the action of drugs when given to the bees at the proper dilution.
>
> There are hundreds of bee-keepers located in vicinities where black and foul brood have been raging; and I would by all means urge all such to medicate all the syrup they feed, either with carbolic acid or beta naphthol, a new drug that is decidedly less objectionable to the bees than the other, and quite as destructive to the active bacilli themselves.
>
> This same drug is recommended by bee-keepers in England, and especially by Thos. Wm. Cowan, editor of the British Bee Journal. It comes in a kind of powder, in one-ounce boxes. Into an eight-ounce (or half-pint) bottle empty one of these ounce packages. Then pour in just enough wood alcohol to dissolve the powder; then fill the bottle full, or very nearly so. This quantity of chemical in solution is just right for 140 pounds of sugar undissolved. Measure off 140 pounds of sugar, and then 140 pounds of water, and mix. Pour the contents of this

eight-ounce bottle into the syrup, and stir well. We make all our syrup by mixing sugar and *cold* water, equal proportion, in the extractor; that is to say, after the two are placed in the machine we turn the reel vigorously for a few minutes. The next move is to pour in the requisite quantity of the drug in solution, and turn the reel again till the ingredients are thoroly mixt. If one wishes to feed a less quantity he can figure out for himself just what the proportions will be.

Mr. Cowan, just referred to above, says that beta naphthol has been thoroly tested in England, and its efficacy proved, and that it is now the common practice of the most advanced bee-keepers in that country to medicate all their syrup before giving it to the bees. We are medicating all the syrup fed to our bees this fall, with the naphthol solution. We are doing it as a matter of safety; for no one knows in these days when one of the dread diseases may visit his apiary.

Beta naphthol can be obtained at most drug-stores.

Carbolic acid crystals can be furnisht at the drug-stores in pound bottles for about 75 cents; but on account of a very decided repugnance for it on the part of the bees, the beta naphthol should be used.

We have been trying the carbolic-syrup mixture in the proportion recommended by Cheshire, but our bees positively refuse to take it. They will go to the feeder and smell of it, and then turn away in disgust. We have even reduced the quantity of the acid, but that seems to make but little difference; and I conclude, therefore, that bee-keepers had better not waste their time with it. I remember when we used to spray with a solution of carbolic acid and water, when we had foul brood, the odor would sometimes drive the bees clear out of the hive.

But it must be distinctly understood that neither carbolic-acid nor beta-naphthol syrups will cure a case of foul brood after it is well started. I would waste no time in spraying-solutions of either in water on foul-broody combs. They are valuable only as preventives—that is, to catch the disease at the start. A pail of water at the beginning may put out what would otherwise be a million-dollar fire, when it would be worthless after it had got well going.

Beta naphthol can be ordered from the office of the American Bee Journal at 30 cents per ounce, postpaid.

◆

Commercial Value of Propolis.—Reports in foreign journals say that propolisin has proved of great value in surgical cases in the British army in South Africa. The name suggests that this is some preparation of propolis. It is said that serious results had been attending wounds, which results became very much modified on the application of propolisin, when prompt healing took place. When the supply of propolisin became exhausted, the wounds again assumed their virulent character. Interesting it would be if it should turn out that those who have been grieved to think they were living in a region where propolis abounded should find they had an article of much value on hand.

◆

Maiden Ladies as Bee-Keepers.—We have always favored women taking up bee-keeping at least for a partial livelihood, believing that it would be to their physical, spiritual, and financial betterment should they get out into the country and "keep bees." Well, it seems from the following, taken from the American Bee-Keeper, that a couple dozen ladies have gone West for the very purpose of taking up bee-keeping:

> The Western Bee-Keeper is informed that 24 maiden ladies arrived at Denver, Colo., on one train recently to engage in the culture of bees in that State. Our contemporary is of the opinion that Colorado offers to women in quest of profitable investments for their savings a very desirable field as apiarists. California, we believe, would offer even greater inducements to such a trainload of aspirants for fame in the realm of apiculture. There would be abundant opportunities for them to become equal partners in well-establisht apiaries without the expenditure of capital.

Editor Hill, who wrote the above paragraph, makes a very catchy suggestion in his last sentence. Provided the other "equal partner," which the prospective lady bee-keeper got in the deal, should be exactly to her liking, we don't see why it wouldn't be an easy and inexpensive way for her to get "into bee-keeping" "with both slippers," and "right on the ground floor."

But we know several better chances than that. It is where the young lady herself is a bee-keeper, and has a fine apiary. But it would take a mighty good fellow to be an "equal partner" there. She'd always be the "better half."

◆

Attachments of Section-Combs to the separators are usually cut thru with a knife. F. Greiner says in the American Bee-Keeper that he uses a thin-bladed compass-saw. "The saw would cut away without denting the capping; the knife would only crowd thru and not infrequently injure the capping, especially when the honey is cold."

Weekly Budget

LEAVES AND HONORS.

Now in clouds the leaves are falling
  Silently and slow—
Fitting types of human frailty
  And of honor here below.
—STENOG, in Gleanings.

◆

MR. W. J. BROWN, of Ontario, Canada, writing us Oct. 19th, said:

> "I receive the American Bee Journal regularly, and would not like to be without it. The honey crop here has been poor for the past two seasons, an average for 1900 of 16 pounds per colony, spring count; in 1899, 20 pounds; and in 1898, 55 pounds."

◆

THE VOTER'S DUTY.—We do not regard it as within the province of the American Bee Journal to discuss political or religious issues, but it is a duty, in all places and at all times, to stand for political righteousness and truth, no matter whom it may injure or overthrow, be he king or president of a nation, or the humblest official, who has betrayed the sacred trust reposed in him, and thus endangered the very existence of a free people.

Without going further into the subject here, we want to ask our voting readers to remember the following truthful statements when they exercise their sovereign prerogative next Tuesday, Nov. 6, at the ballot-box:

> It is the duty of the voter to vote his convictions, not to carry the election. It is not his duty to win, but to record his honest convictions. Any other theory of politics is that of partisanship, not of free voters. To say that the voter must choose between two candidates or parties is both false and mischievous. It is built upon the assumption that the political parties are the bosses of the voters. My party is my servant, not my master. It is my duty to vote my will at the polls, even if I do not choose either of the dominant parties. I protest against any party telling *me* what I shall vote upon. To consent to *this* is to wear a party chain and to come when I am whistled for. It is repugnant to any man who does his own thinking or says his prayers. The true worth of the independent voter to his country can never be over-estimated. It is the only hope of civil salvation.—REV. CHARLES A. CRANE, of Boston.

> And when the victory shall be complete—when there shall be neither a slave nor drunkard on the earth—how proud the title of that land which may truly claim to be the birthplace and the cradle of both those revolutions that shall have ended in that victory! How nobly distinguisht that people who shall have planted and nurtured to maturity both the political and moral freedom of their species.—ABRAHAM LINCOLN.

> "No vote for principle is ever lost."

◆

MR. WILL WARD MITCHELL will hereafter take Mr. R. B. Leahy's place as editor of the Progressive Bee-Keeper. Mr. L. says that in making this change he feels that greater success awaits him in another direction, so he deems it for the best to have Mr. Mitchell assume the editorial pen. Well, Mr. M. is a poet, and as apiculture has been called the poetry of agriculture, we don't see why he shouldn't fit his new position to a dot. We wish him all kinds of success, even tho we know that editing a bee-paper isn't the greatest snap in the world.

◆

DR. C. C. MILLER has recently been in ill-health again. We don't know what bee-keepers will recommend as a proper treatment for him, if he doesn't stop trying to do so much. When a man gets to be nearly 70 years old, it's about time he began to "let up" a little on hard physical labor, and enjoy himself by doing as little as possible of work that others can do. Every reading bee-keeper in the land wants the Doctor to keep on for a long time, yet telling his experience and answering questions about bees and bee-keeping. He can't be spared yet, either by his loving family or by the bee-keepers. And, personally, we want him to stay here below many years more. Of course, we can't hope to keep him always on earth, but we don't want him to do anything that will shorten his stay here.

Doctor, take things easy. But, like the Irishman said, "If you can't do that, take things as easy as you can."

◆

MR. H. W. BARTLETT, of Plymouth Co., Mass., wrote us Oct. 24th, that he wisht to purchase some bees near his home. He said he noticed Mr. Chas. A. Holmes, of Suffolk Co., Mass., reported in the Bee Journal recently that he rears bees for sale. We wish to suggest that Mr. Holmes could hardly do a better thing than to advertise in this journal when he gets ready to offer bees again. There are many others who doubtless could increase their business by doing some advertising in these columns.

The American Bee Journal is ready to help all who do an honorable business, and trusts that such will patronize it in an advertising way. As a matter of mere justice and right, we must require that any who wish to do business with our subscribers shall do it thru the advertising columns, and pay for the space used, just as do our other advertisers. We can not conscientiously charge one man for publishing his advertisement, and then let another man work in a free notice with regular reading-matter.

Convention Proceedings.

Report of the Proceedings of the 31st Annual Convention of the National Bee-Keepers' Association, held at Chicago, Ill., Aug. 28, 29 and 30, 1900.

BY DR. A. B. MASON, SEC.

(Continued from page 679.)

J. A. Green—I would not be greatly afraid of having sweet clover clast as a noxious weed, because it has been so clast in this State for several years, and in some townships down our way the commissioners try to eradicate it.

Dr. Mason—Where is that?

Mr. Green—In La Salle Co., Ill. But usually their efforts only result in making a pasture for the bees; they change the time of blooming, and until they have gone thru a long course of education in better methods of eradicating sweet clover, I am not at all afraid of their getting it out of the way—they only help it.

O. L. Hershiser—I don't think there is any danger of sweet clover becoming a noxious weed if all the information given here is made public thru the country. The definition of a weed is a plant whose virtues have not been discovered. The virtues of sweet clover seem to have been pretty thoroly discovered.

J. Q. Smith—As I am one of the largest apiarists in Central Illinois, I have had considerable experience with the road commissioners in regard to sweet clover. They used to cut it twice a year, but they found out my bees were getting some benefit by that act. They have cut it three times this year, and I had a conversation with one of them, and was trying to explain to him it was not a noxious weed. He said, "You can't tell me that. If I am driving anywhere in my buggy, or with my team, and see a stalk of sweet clover, if I haven't anything to cut it with, I get out and pull it up." I replied, "I am going to keep you pulling sweet clover; it has come to stay, and it must stay."

Mr. France—I think that was a wise suggestion from this side of the house, that we distribute at large this information; but there are other points in Mr. Moore's valuable paper that are well worthy our consideration. Have bee-keepers' rights besides those pertaining to sweet clover?

Mr. Smith—I believe it would be well to get a copy of an article on sweet clover, and each bee-keeper have his local paper publish it. I am willing to pay for the space in my local paper to have it publisht. That is, in the weekly papers that go out thru the country, and have the farmers read it. I believe it would be one of the best facilities we could have.

Pres. Root—That is a good suggestion.

R. Rodenberger—I wish to inquire if there is any use that can be made of the seed? If so, if the farmers would learn that, they would raise it for the value of the seed. I think there would be a chance for some one to make some money out of it. If this matter was brought up by those who are farmers, in our farmers' institutes, I think they could educate the farmers in regard to sweet clover so they would not class it as a noxious weed when they learn the use of it.

C. H. Coon—I know how valuable sweet clover seed is. Some years ago, in the city of Cleveland, I bought a peck and paid $3.00 for it. I took it home and sowed it in different places. I can't get a stem of it to grow. I have gathered it since then in Kankakee Co., Ill., by the side of the road, and sown it in my section [Ohio], and I can't get a bit of it to grow. My wife put a little of it in a flower-pot in the house and babied it, and she got it to grow a little spindling plant, but it didn't survive the winter. Thruout Ashtabula county we are not bothered by road commissioners destroying it. I tried my best to get it to grow, but I can't do it. If Dr. Mason, or anybody else, can give me a little instruction how to raise sweet clover, I would like to have him give it.

A Member—When did you plant it?

Mr. Coon—The time I gathered the seed. Nature seemed to indicate that that was the time to sow it. I have sown it in the spring of the year; I have sown it all thru the year—in June when the supervisors were working the road, and the soil was fresh. I have sown it a good many times; I have taken the seed along and scattered it where the soil was fresh; I have sown it with my grass-seed in the fall of the year; I have sown it in the spring of the year also when I sowed my clover seed. I have given to my neighbors out of that peck, and they have put it in with grass-seed, but never could get it to grow. I have seen it growing in Pennsylvania right in the sand where it apparently would not grow. I have seen it growing there four feet high, and I have seen it growing in Kankakee Co., Ill., in black soil.

Pres. Root—You don't see it growing in your county at all?

Mr. Coon—Except occasionally, right in a flower-bed.

H. Lathrop—I have just been visiting two weeks in Auglaize Co., Ohio; I saw some nice sweet clover growing right along the roadside.

August J. Hintz—There is one thing I wish to say about sweet clover that has not been toucht upon; that is, it fertilizes the ground. Six years ago I had a piece of land near Denver, Colo. There was a piece of sweet clover there that had been growing two years, and I had that plowed about six or seven inches deep, and raised strawberries, and for years after that they were on that patch. Then as many as four years afterward sweet clover would come up. I was on the place last year, four years after the seed was plowed up, and it still came up; it fertilized the ground even where there was manure. Put on sand it would produce a better crop of strawberries than where they used horse-manure. I am surprised that Mr. Coon could not get it to grow. By sowing the seed in the fall the frost will crack the seed. If I sow it in the spring I can't get it to grow. In the fall I can get it to grow almost anywhere, where alfalfa or anything else will grow.

J. L. Anderson—In a patch that I have, in northern Illinois, scattered on top of the ground in October two years ago, it stands as high as your head now.

Pres. Root—We will next listen to the subject to be handled by Mr. R. A. Burnett, the honey-dealer, on

TRIALS OF THE COMMISSION MAN.

I am here because you have a smart president. It is quite a while since I have been before a bee-keepers' convention, and I have managed to get out of it pretty well until this time, and it is only fair that I should state, to begin with, that the subject upon which I am expected to address you is not one of my own choosing. Your president managed to get out his program, get it on the press, and then send me a copy, and said that if I couldn't, or wouldn't, or something to that effect, that I would have to telegraph my declination. I felt it would be rather unkind of me to do that, so I am going to try to make the best of this.

I suppose one of the trials of the commission man is that all the producers of honey don't send him their goods. Another one might be, that instead of the commission man before you to tell of the trials of that business, you could tell him a whole lot of the trials you have with him. I think it was a little bit wise, perhaps, that our friend who has explained the law should precede me, so that in case you get into trouble with what I have to say, you know your remedy. The trials of a commission man are the trials of you all; and many trials that we have arise largely thru ignorance, and we, who may be the consignors, do not understand how to get merchandise in such shape that it will please the buyers. That, we might say, was the beginning of our difficulties on that side; if the commission man undertakes to educate his patron, he must do it with lots of circumspection. The chief idea with the ordinary consignor is that if he gets his honey into the hands of a commission merchant the latter must do the rest; that is, he must get the top price for the kind of honey he sends. The shipper may see that honey is quoted at 15 cents a pound, and he knows of some others that have obtained that; and if he doesn't get it, why, of course, there is something wrong, and there is no doubt that, as a rule, that is true—there is something wrong.

I will cite a case or two that came up within the last few days, so that the moss has not grown over them yet. A small consignment of beeswax—and I think the shipper may be in the audience, as he wrote me he expected to come on the proceeds of it—sent it in after ascertaining how the market was, and when we came to examine it, we found it had a greasy condition about it; it lookt to us very much as if there was tallow in it—at least tallow had been used in the pans to get it out. We found a white spot in one of the cakes, that, without examining it chemically, we pronounced tallow. The matter having got to the party who was expected to tell all these things, he wrote the consignor telling what they had found, and also advising him his beeswax would be held until he came in, etc. He wrote back and said there was no tallow in that beeswax; that it was made in the sun extractor, and that the white spot we saw in the cake was hog-lard; that he had run it from the extractor into a jar that had had lard in it. Well, it did look as tho it might be lard, and I am quite satisfied that he was honest about it. We broke a cake or two of it and found there was a great deal of honey left in the wax, and this some buyers object to; they claim it won't answer the purposes of beeswax; there didn't seem to be any grease mixt thru it. So, now, there was a small case of ignorance. He had no idea that that little piece of lard was going to affect the price of his beeswax, or any one find any objection to it, and not noticing or caring very much what kind of a vessel he put that in, it met with those results.

Then we get lots of other things. Mr. Baldridge could tell you a whole lot more about the trials, probably, that he has had with me than I could about the trials I have with you. Most of the commission men are anxious to please and to hold their patrons; they do about the best they know. It may be at times they don't sell the honey to the man that would pay the highest price, but he is often very hard to find. Mr. Baldridge will come in and he will say, "Mr. Burnett, what are you charging for honey to-day?" Why, so and so. "Yes. Well, I think it ought to bring that." But I notice Mr. Baldridge doesn't ask me to sell him any. "Well," I would say, "what is the matter, Mr. Baldridge? Why don't you buy this honey if you think it ought to bring that?" He says, "I can do better; I can get it cheaper somewhere else." If I sell him honey I must meet his views on that question, if I thought he could get that honey anywhere else; tho I would be stubborn enough if I believed he could not get it at his price, but being fairly well posted in this line of business, I know there are times when he can get that honey for less.

If I have some honey that a party wants to get his money out of rather soon, I will do perhaps what we call "shading the price," and I make the sales accordingly, and explain to the shipper, perhaps, if he finds any fault, that that was the best price that I could get at that time—it was all the buyer would pay.

Now, this idea that a commission merchant isn't about like the average producer of honey, I think you will agree with me is a mistake. He is just doing the very best he can in his sphere. I might say, if the president will permit me, that I consider that we are all in a great school, and that the common enemy is ignorance, and the task set before us is to overcome ignorance. As we go along in life, if we have been careful—if we have been industrious, if we have tried to learn perhaps there are some who have grown faster in knowledge than others. I believe we must all overcome ignorance in every form; the disturbing of the equilibrium always brings trials; if something comes up that seems to disturb us very much we call it a trial; if we allow it to get hold of us in such shape that it destroys our ability to think and plan, and to know or plan, what would remedy the difficulty, we are in rather a bad way, and we must wait until we get the mind in shape again, until we can apply the mind and find the way out of this difficulty.

Personally, I have no trials. I don't get angry at a fellow if he doesn't ship me his honey, and I am very anxious indeed that every man who ships me his honey shall know the conditions that he is likely to meet before he sends it, and the stereotyped reply almost, I might say, of our office is, "If you can not market your honey yourself in any way that is satisfactory to you, you may expect that our market will bring you so and so, providing that your honey arrives in such condition, and will not be objectionable to the man who goes around with his money and buys where he can buy the cheapest, and at the same time get the best value for the money he invests."

If I recollect, it so happens that the second man in this part of the world that shipt me honey over 20 years ago, is in the audience. I was asking him how long ago it was he made me that shipment. I think he said it was in 1876. I simply mention this as a corroboration of the fact that because a man shipt his honey to a commission merchant he must not necessarily die or "go broke."

R. A. BURNETT.

Pres. Root—This subject is open for discussion for just a few minutes; perhaps there are bee-keepers here who have trials as well as commission men.

Mr. Hershiser—I have not had many trials with commission men; I have not heard of many that have been tried; there is once in a while one; I think that the offenses that some commission men usually commit are of such a character as to make it rather a discouraging outlook for any one to bring legal proceedings against them; they cheat on small shipments. We had a commission merchant in Buffalo a few years ago that had robbed people thru the country of perhaps a good many thousands of dollars on many small shipments. He sent out very attractive notices, and received shipments mostly of poultry from all over the western part of the State of New York, and in Ohio and Michigan, and other places, and he gauged the amount of his stealings from these people according to the distance they lived from Buffalo. If they lived 100 miles, or something like that, so that the expense of coming down to Buffalo would be likely to be more than he would get out of it if he got there, he would cheat that party out of that much money. He finally ran across one man away out in Ohio who was willing to make a trip to prosecute the man, and he had to pay $500 fine for his cheating. He was prosecuted thru the United States court for using the United States mails for schemes to defraud. That is the only case of the trial of a commission man that I know of.

A Member—What is his name?

Mr. Hershiser—He is not in business any more; his name was Unger.

(Continued next week.)

Contributed Articles.

Old or New Hives for Wintering—Other Questions.

BY G. M. DOOLITTLE.

WILL bees stand the winter as well, and be as healthy in old hives, or those having been used several years, as in new ones? Tell me in the American Bee Journal.

ANSWER.—When I first read this question it seemed to me that the proper answer to give would be this: Old hives in a good state of preservation, with no decayed spots and no open cracks, should be as good as new ones for wintering bees, and the new ones as good as the old. But after thinking a little I am not so sure about that answer. Years ago I found out that a single-walled hive painted on the outside would not winter nor spring bees nearly so well as an unpainted hive, on account of the moisture, evaporating from the bees and their food, not being able to pass thru the pores of the wood, as was the case with the unpainted hive, this causing a dampness about the bees and on the combs which was not in accord with the best welfare of the inmates of the hive. All old hives, after long use, become so varnisht with propolis on the inside that this places them in a condition similar to hives painted on the outside; and in cases where the slow passing of moisture out of the hives was not provided for by way of chaff or sawdust cushions, etc., I should expect that the bees would winter best in new hives.

But there is an item generally favorable toward the old hives, which is, that they are more likely to contain old combs; and it is generally conceded by all practical bee-keepers, and was given to the public away back in the '50's, by Quinby and others, that, other conditions being equal, bees will winter better on old combs than on new ones. This I have found to be universally true. This being the case, if there is any preference, it would lie along the line of old combs in new hives.

BEES AFFECTED BY MOISTURE.

QUESTION.—Does moisture affect bees wintering on sugar-syrup stores in the same way as it does those wintering on honey?

ANSWER.—That depends altogether where the moisture is—whether a damp outside air, damp cellar, or moisture in the hives. From past experience I think that bees winter best in a moist atmosphere, and I do not think that a foggy, misty winter has any deleterious effect on colonies wintered on the summer stands. The moisture often accumulates in my bee-cellar so it stands in drops and runs down the stone flagging overhead, to an extent sufficient to form little pools in the depressions on top of the side-walls of the bee-cellar, and yet the bees appear to winter perfectly. It is often so damp inside that mold will begin to form in different places, and by the time the bees are put out in the spring some of these patches of mold will be as large as, and stand out like, the crown of a hat; still the bees have generally wintered well in this cellar, very much better, as a rule, than those left on the summer stands. Inside the hives, the combs, bees, and all, seem to be as dry as when put into the cellar; but were dampness to collect on the combs and the walls of the hives about the bees, or run down on them, I should have fears of injury.

As to stores, I believe that sugar syrup does not attract moisture as much as honey, therefore the sugar syrup is the better of the two for wintering bees. Honey seems very susceptible of moisture, in fact, more so than any other liquid with which I am acquainted.

SQUARE FRAMES—DEPTH OF FRAMES, ETC.

QUESTION.—Would I not better adopt a square frame in keeping bees? What do you think of the square frame? I am assured by men of experience that the Langstroth frame is not deep enough for the cold climate of Canada.

ANSWER.—Replying to this I wish to say that bee-keeping does not depend upon the size of the frame used, or upon its form. There are few frames now in use but that a man or woman of energy, and love for bee-keeping, can take and make a success with them. I believe in always having the *best* appliances as far as may be; but I wish to put emphasis on the fact that it is the *man* or *woman* who puts the success into the thing, primarily, and the best appliances come in as a secondary matter.

Altho I have been an advocate of the Gallup or square form of frame all my life, still, as I have said before in print, if I had 25 colonies on any style of frame now advocated by our *practical* apiarists, I would not consider it a paying job to transfer them to another style of frame, whether in Canada or York State, provided the hive containing these frames would accommodate the style of surplus arrangement which it was necessary to use in order to place my honey on the market in the most attractive and marketable shape. No, no! it is not *all* in the *frames* or the *hives* as some assert, but it is in the man or woman with energy, push, and real worth enough to surmount every obstacle which stands in the way, and make a success of a thing in spite of a few minor hindrances.

Look at the great potato-grower and lecturer at farmers' institutes, Mr. Terry, of Ohio. Had he gone on a rich farm instead of a poor one, he probably would have arrived at the same wealth sooner, but his success would not have been greater than now—perhaps not as great—and, in all probability, the world would not have been benefited nearly so much as it has been; for the overcoming of that obstacle, in the shape of a poor farm, gave a certain vim to the success that led him to tell others how it was done, and in this telling has come the greatest light to the world.

Reader, if you find a difficulty in your way, and succeed in overcoming that difficulty, don't keep the matter hid, but tell us about it, and thus help the world. Don't be foolish enough to say, "No one will pay me for telling," for that is a selfish spirit, and selfishness *never* pays; for in the doing of some kind act, or in trying to lift the burden from some tired shoulder, comes a wealth that money can not buy.

Now a word about a square frame for the cold climate of Canada. In most of the localities in Canada, where bees are kept, the mercury does not go lower than it does here in Central New York. As the older readers of the American Bee Journal know, I have gone over the ground of a shallow frame like the Langstroth not being suitable for our cold climate, many times. And I still think there are some few things in favor of the square frame where bees are to be wintered on the summer stands; yet, as I have said before, if I had 25 colonies on the Langstroth frame I should consider it a losing job to transfer them to a square frame, hoping for better wintering when they were on the latter. Where bees can be wintered in the cellar the Langstroth frame is not required to "take off its cap" or "make a bow" to any of the others, even in cold climates; and in a climate where bees have a chance of flying every two or three weeks during winter, no one has any occasion for looking for a better frame. Onondaga Co., N. Y.

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Queen-Rearing is a very interesting part of bee-keeping. Mr. Doolittle's book tells practically all about the subject. See the offer we make on the second page of this number.

An Interesting Experience With Queen-Bees.

BY J. L. GANDY.

FOR the last 15 years I have purchast and introduced on an average 60 queens annually, except last season, when I introduced only 20, tho 50 more old queens should have been changed. The press of other business caused me to neglect this important matter, and by the time I got them requeened and built up the season was so far advanced that I got no surplus from them; while from 50 other colonies in the same yard I have five tons of surplus honey. From one colony that I requeened late last fall I secured 502 pounds of surplus honey, one-half being comb honey. I paid but 50 cents for the queen of this colony; I have been offered a fabulous price for her, but she is not for sale. I have purchast quite a number from the same breeder this year, and all seem equally good. The bees from this and several other colonies workt the whole season on red clover and catnip.

I have found in buying queens that all breeders are honest, as a rule. I have purchast and introduced 75 untested queens this season from a dozen different breeders, and all have turned out to be pure Italians, and good layers, but there is no doubt that some breeders have a better strain of bees than others.

Some think that it injures queens to send them thru the mails. According to my experience such is not the case with young untested queens; but I believe after a queen has become an establisht layer in a full colony, she is injured by being taken away from the colony. I have purchast three five-dollar queens at different times, and none of them proved to be more than half as good as untested queens purchast from the same breeders. I once bought a dozen tested queens, leather-colored, six months old, and six of them died during the winter, and the others would have starved if I had not fed them. At another time I bought six tested queens one year old, and all died during the winter. I have also had poor luck with untested queens. I once drove to a breeder 15 miles distant to buy queens. He had none fertilized, so I told him I must have one queen anyway, and he sold me an untested one six weeks old from one of his colonies that then had six frames of brood. I introduced her the same day. I kept her for two years, but she never had at any one time two full frames of brood, and would have starved had I not constantly fed sugar.

I would suggest to breeders that queens to be sent by mail be reared in small nuclei, so that the laying would be very little; and never, under any circumstances, to send out a queen after she has become an establisht layer in a colony.

I rear my own queens, to a certain extent, and will give my experience in breeding 30 the past season, which is about the same experience as I have each year. Eight of the queens were lost in mating, three had defective wings and had to be killed, two laid drone-eggs, one never laid at all, only six were purely mated, and the balance were very poor hybrids. One of my reasons for purchasing queens is that I think it just as important to change the strain of bees often, as is done with the breed of hogs and cattle, and unless this is done, and if bees are allowed to inbreed, in a few years they will degenerate and be worthless as honey-gatherers.

I think, as a rule, queens should be changed at the end of the third season, tho I find some good at four years of age, and others poor when two years old. I once had a queen fairly good until she died in her eighth year. Queens should be changed when they begin to fail, regardless of age. By long and careful observation I have come to the conclusion that under no circumstances should bees be allowed to change their old queen. A bee-keeper would better requeen as I have mentioned, and he will make money in so doing, even if he has to pay $2.00 each for good queens (that is about the average cost of a queen if a bee-keeper breeds her himself). I haven't the least doubt if I had expended $25 for 50 additional queens last fall, I would have had a thousand dollars worth more of honey this season. Richardson Co., Nebr., Oct. 2.

The Influence of Location in Bee-Keeping.

BY ADRIAN GETAZ.

THREE times since I began keeping bees the discussion of large versus small hives has been commenced in the bee papers, kept up a year or two, and then dropt, only to begin again two or three years later. Each time the same arguments have been presented by substantially the same writers. Each time the conclusion has been reacht that it was a matter of "locality;" but why some localities require a certain method of management, and why some others require a different method, has not been explained. Why does Dadant's locality require large hives and correspondingly large colonies? Why does Doolittle's locality need small ones? What influence has the more or less successful wintering due to the climate, upon the condition of the colonies in the spring and the subsequent management? What management is required for a short, heavy, flow of honey, and what for a long, light flow? What for localities having a fall flow, etc.?

All of these points should be thoroly investigated and understood. We should be able to say: A given locality of such and such climate, honey-flow, etc., requires such and such management; and we ought to be able to explain *why*.

I can only describe the characteristics of East Tennessee, from an apiculturist's standpoint, and explain how those conditions brought me to my present ideas on the subject. I may add that I am writing from the standpoint of a comb-honey producer.

Beginning in the spring of the year, we may say that our honey-flow, or, rather, our honey season, begins about April 1st, and ends about the middle of July. But it is by no means a continuous flow. In April, fruit blossoms; in May, after an interruption, tulipwood. Then another interruption until the persimmon flow comes in June; then basswood and sourwood during the latter part of June and July. Basswood is found only away in the mountains; there is none here. Some white clover bridges more or less the interval between fruit-blossoms and poplar, but not enough to be depended upon for surplus. Occasionally there is a heavy flow of honey-dew during May and June; generally of a tolerably fair quality, but sometimes abominable in taste and color.

What increases the difficulty is the irregularity of these different flows. Often the fruit-blossoms and poplar flows are interfered with by bad weather. Sometimes there is honey-dew; sometimes there is none. Sometimes the sourwood yields, and sometimes not. The persimmon has never failed yet with me, but there are only a few trees here and there, and the period of blossoming is very short.

There is absolutely no way to tell in advance which of these sources will yield, and which will not; so the only chance to secure surplus is to keep the colonies strong during the whole season (three months and a half), so as to catch whatever flow may happen to come. I am speaking for Tennessee generally. In my immediate neighborhood there are very few tulip trees, and no lindens.

Needless to say that a management similar to the one advocated by Mr. Doolittle and others would be a failure; for the flow for which they would build up might be the very one that would fail. In fact, I tried once to build up my colonies very, *very* strong for the sourwood flow, when, lo, and behold, that flow failed completely.

To keep colonies of bees in full strength during three months and a half, it is necessary to control swarming, otherwise both the mother colonies and the swarms would be too weak during the remainder of the season.

This is one of the reasons which prompted me to adopt large hives. I had some correspondence with the Dadants on the subject, stating that there was no demand for extracted honey here, and they advised me to build up a home market as they have done. Unfortunately the bulk of our honey is dark, rather inferior in quality, and varies greatly both in taste and color. To build up a special home market at advanced prices, it is necessary to have first-class honey.

Prevention of swarming can be accomplisht only by caging or removing the queens at the proper time. This, however, entails quite a loss of brood, as the bees must be at least four days without unsealed brood.

Those four days or more without brood are the key to success. After the bees have begun to build queen-cells they will continue as long as there is unsealed brood, and the conditions of honey-flow, temperature, strength of colony, etc., are favorable. After having been without unsealed brood a few days they will not resume cell-building, at least not for quite a while, and generally the remainder of the season. But, as stated above, this entails a loss of brood. With me the swarming takes place in May. The brood lost at that time is precisely what would furnish the field-bees for the sourwood flow in July. So it becomes necessary to reduce the loss to a minimum.

By using large hives, putting on supers early, and protecting them against the cold nights so that the work goes on in the super day and night with no interruption, using bait-sections, shading the hives in hot days, etc., I have, for the last six years, succeeded in reducing the swarming from 5 to 15 percent of the number of colonies.

Under such circumstances, rather than to requeen thruout, I let the colonies swarm; catching the queens in the traps and returning the queens, or giving the colonies others after they have been a few days without unsealed brood; or I let them have queens out of the cells they have built. If, occasionally, in examining the colonies, I find cells started, I treat them the same way without waiting for actual swarming.

Between the honey season and the winter there is a little nectar gathered every day except in the very dry seasons. That quantity increases materially when the goldenrods and asters bloom, but there is never enough to furnish any surplus, and very often not enough to winter the colonies.

During that period there are plenty of weeds and flowers of all sorts along the fences and in the fields after wheat and oats are harvested. in the pastures and other places; but they yield very little honey; and, as as a rule, only in the early morning. This must be due to the fact that the ground is too dry to admit the formation of the nectar, for, occasionally, if an abundant rain comes there is something like a flow of honey for a few days after.

The result is that the more bees there are in a colony the more flowers will be visited, and the more honey brought in; in fact, while the strong colonies will gain some in population and stores during that period, the medium ones will only sustain themselves and the weak ones will lose, if they don't get robbed by the others, which happens occasionally. The result is, that by the time winter sets in the difference between the large and the small colonies will be greater than it was at the close of the honey harvest.

During the winter the difference becomes still greater. The strong colonies will eat proportionately less, lose a less percentage of bees, rear some brood, and when spring comes they will be very much stronger in proportion, begin brood-rearing in earnest much sooner, and be ready to enter the surplus apartments in full force long before the weaker colonies can even recover their lost strength. Do you wonder that I am such a strong advocate of the large hives and larger colonies?

If this state of affairs were a purely local one, I should not have written this contribution; but it applies in its main characteristics to the whole country south of the Mason and Dixon line except Florida; there are differences, of course, between one locality and another. The further south we go the shorter is the winter. Then, below this section there is the cotton, while, on the other hand, the sourwood does not exist in the low plains. But, nevertheless, the general features of the Southern-States' honey-production remain the same. A few months of honey season during which nectar can be gathered from different sources, but in a very irregular manner, some sources yielding this year, and some other yielding the next year, necessitates the keeping up of the colonies to their full strength during several months; then the late summer and fall season, with very scant yielding of nectar, during which the strongest colonies have a decided advantage over the others.

Other sections of the country are under different conditions. In the northern States there is a definite honey season of a few weeks from white clover or basswood, or both, the swarming take place at the beginning of it. Some of these have, besides that, a honey-flow from buckwheat later in the season; and, in a few localities, there is also a fall flow of considerable importance.

In Colorado and other northwestern States, they have two distinct flows. Thru some correspondence with a prominent Colorado apiculturist, I have learned that one difficulty with them was that during the honey-flow the bees were filling the brood-nest with honey and curtailing the brood, with the result that at the time of the second flow the number of field-bees was considerably reduced.

Some portions of California seem, on the other hand, to have a long, continuous flow, with the swarming taking place before the flow opens.

I have done my part. Now, if others in different localities will do the same, we will eventually have the matter fully understood.—"Prize Article" in the Bee-Keepers' Review.

Introducing Queens With Tobacco-Smoke.

BY HENRY ALLEY.

I HAVE read the thousand-and-one methods given in the bee-papers for introducing queens, and none of them, it seems to me, are at all practical. They all require too much work and trouble, and, so far as I know, none of them are reliable.

I never have practiced but one method for introducing either fertile or unfertile queens, and it is always attended with the best of success.

To be successful in introducing a queen, a colony must be put in shape to realize thoroly their queenless condition, and this can best be done by letting the bees remain queenless 72 hours. This applies to colonies to which either fertile or unfertile queens are to be introduced. At the end of three days cells will be started, but not capt, and then is just the right time to introduce a queen and make it a success.

When a queen is received, do not put the cage near the colony to which the queen is to be introduced. This is a bad practice and a mistake a good many bee-keepers make. When a colony has been queenless three days, place the cage over the frames in such a way that the bees in the hive can have access to the food in the cage, and in the course of a few hours the food will be removed, and everything being so quiet the queen walks out and takes command of the colony, and all goes on well.

Now, to make the introduction doubly sure, just blow a quantity of tobacco-smoke in at the entrance of the hive—enough smoke so that all the bees will feel it. The best time to do this, and to introduce a queen, is just before dark.

Now, I can not use tobacco as a good many people can; that is, I can not smoke a cigar nor pipe, and so I was obliged to perfect some arrangement whereby I can fumigate the bees with tobacco, so I made a tin pipe in this way:

The body of the pipe is made of tin ⅞ inch in diameter, and about 5 inches long; then a wood stopper at each end. A hole is made thru each stopper, and the one placed in the mouth is shaped to fit the mouth. The stopper at the other end has a small tin tube run thru it so that the smoke can be directed to any particular point. The pipe is held between the teeth, and the hands are then at liberty. Fill the pipe with fine, cheap tobacco—tobacco such as cheap cigars are made from is strong enough for bees, while the common tobacco used for chewing and smoking in clay pipes is too strong.

If too much smoke is given, and the bees commence to tumble out at the entrance, throw some grass on the alighting-board, but not enough to stop ventilation.

All my queens are reared in full colonies, and are hatcht in nursery-cages, and then the queens are introduced to nuclei in hives having four combs and frames 4x5 inches. These little colonies build up strong—so strong, in fact, that on hot days I will have nearly 200 of them with the bees clustered on the outside, and it is a handsome sight to look upon.

Each of these hives has a hole in the top, or cover, thru which the feed is given the bees. When I have 30 or 50 virgin queens to introduce, I place as many cages with queens in them in a box, and then get a plantain leaf for each hive. I then stop the entrance with the leaf, and blow a quantity of tobacco-smoke into the hive thru the hole in the top, and quickly shake the queen from the cage into the top of the hive. It does not require over 30 minutes to introduce 50 queens, and, what is the best part of it, I never lose a queen.

Fertile queens can be introduced in the same way; that is, they can be shaken out of the cage just as soon as the colony has been smoked. I gave the first method, as it will better suit most people.

Now, if any reader of this knows of a better and more expeditious way of introducing queen-bees safely, by all means tell us of it.

Essex Co., Mass.

❧

Belgian Hare Breeding is the title of a pamphlet just publisht, containing 10 chapters on "Breeding the Belgian Hare." Price, 25 cents, postpaid. It covers the subjects of Breeding, Feeding, Houses and Hutches, Diseases, Methods of Serving for the Table, etc. It is a practical and helpful treatise for the amateur breeder. (See Mr. Schmidt's article on page 680.) For sale at the office of the American Bee Journal. For $1.10 we will send the Bee Journal for a year and the 32-page pamphlet on "Belgian Hare Breeding."

The Afterthought.

The "Old Reliable" seen thru New and Unreliable Glasses.

By E. E. HASTY, Richards, Ohio.

FINE SALT TO KILL DRONE-BROOD.

Fine salt to kill unsealed drone-brood. Ah, that's a kink I had failed hitherto to get. Dr. Miller, page 522—and see also editorial, page 547.

KINKS ON MOVING BEES.

When you move the bees with straw for a spring set the hives on a false rack of slats put on top of the straw. Quite an improvement, evidently. If during the journey the bees of a colony, or a few colonies, jam the entrances and begin to *squeal*, that's the time to save their lives by setting them off beside the road, and giving them liberty. A mixt bushel of melted wax, honey and bees would be more valuable in a tub than in a bee-hive—and not very valuable even in a tub. Let the bees live, and come for them another eve. Page 585.

THAT HYPHEN SQUABBLE—WHEN DOCTOR'S DISAGREE, ETC.

It is taking me in a weak spot to ask me to adjust the hyphen quarrel (or should that be hyphen-quarrel?), so in what I may say please do not consider me as a judge deciding a case, but only as the Afterthinker, making his comments as usual. I say, let the doctors disagree peaceably. If you don't, they'll disagree anyhow, and non-peaceably. It should not be forgotten that the rules of the grammarians have been often at war with the invincible usage (the really correct usage) of the rank and file of good writers; so to show that a thing is rulable does not always settle matters. Now, in regard to the phrase immediately in hand, as the Bible says sweet cinnamon and not sweet-cinnamon, sweet calamus and not sweet-calamus, sweet cane and not sweet-cane, the usage sweet clover, when clover is a noun, seems to be well supported, certainly. Exodus 30:23, Jeremiah 6:20. (It should be remarkt that the Bible runs very light on hyphens, and mostly uses consolidations in the place of them, freewill in the place of free-will; but these plant names in which "sweet" figures are not consolidated.) The original criticism of Mr. Root, if allowed at all, would lie against all these cases, it seems to me. Furthermore, to say in the same article "I saw some sweet clover" (without hyphen), and "I saw some sweet-clover plants" (with the hyphen), impresses me as too fine a distinction. Don't believe the English language will, as a *finality*, settle things so. Still, from a strictly grammarian point of view, it may be all right to let an adjective and noun, with slight peculiar relations, run loose, and tie them together when they shift character into a feebly-compounded compound adjective. So, if I was to decide at all, I should decide that Mr. York should have been allowed to keep on his own way, and Mr. Wallace Root should have kept on his, without making any attack. Pages 658 and 628.

Earth enters the new century with pretty much every doctrine it holds in a state of flux. I'm glad it is so. It is too soon, I think, to browbeat either the man who uses many hyphens, or the man who uses few hyphens. Same of the other points. The Bible (magnificently punctuated, somebody has said) is heavy with colons, and with commas put in pretty much every place where one could imaginably be stuck. Yet very many present-day writers punctuate much lighter, seldom using the colon at all, and using scarce half the commas the scholars of 1611 would have used. It's too soon to try to put down either the heavy system or the light system. "Let every man be fully persuaded in his own mind"—if he can. My feeling is that excess of hyphens gives one's page a look of fussiness that had best be avoided—some body and somebody both of them better taste than some-body. But for a century or so yet I'll consent to tolerate either bee hive or bee-hive or beehive. Still you must let me keep my own thought. to-wit, that the popping in of a hyphen wherever an acute mind can discern some sort of *special* relations between two words—I don't believe those who are moving that way realize how far the principle is going to take them.

While a combination is somewhat unfamiliar the hyphen should be retained, of course; but, if I am right, there is a steady current of language on which *familiar* hyphenated words float out in both directions, into consolidated words on one hand, and into independent words on the other. Bee-culture did not become beeculture, but has already mostly become bee culture—in diverse look from its synonym apiculture. But we write jack-plane because that is not universally familiar, while jack-knife long ago became jackknife. And this state of things pleases me. My personal rule (if I have any) is to omit most of the hyphens, unless I feel that the omission would cause the reader to lose my exact shade of meaning.

As a finality I would vote for the very system that makes the critics the maddest, a phonetic punctuation, intended to represent, in the main, the exact way the writer would like to have his words read. As the historic spelling is doomed (Stenog would put in a big ? there, perhaps), so let the punctuation founded solely on grammar be doomed—not worth the trouble it makes—and no uniformity ever reacht yet, or ever likely to be. *Really*, there is a plain difference in sound between bee hive and beehive, while bee-hive is intermediate in length, with a trifle of special emphasis put in somewhere. With the hyphen (and the other points also), why not write things as we speak them?

PASTEBOARD METHOD OF INTRODUCING QUEENS.

As to pasteboard with pin holes in it for the bees to tear away in being requeened, quite possibly less than one percent of queens so introduced would be killed by the bees; still I demur at calling it an absolutely sure way. See "Indiana," page 601, for refusal to tear the pasteboard. That tricksey—something or other—that loves to make our sure plans go wrong will, in general practice, knock out more than one percent, I fear—queen dying of neglect, and pasteboard not torn at all. Page 595.

SWARMING—COOK VS. GREINER.

Case of Cook *vs.* Greiner, page 598. Do bees nearly all go with the swarm, or are there lots of them left? I should say sometimes, and sometimes. I have often thought it depended largely upon the amount of up-stairs and behind-dummy space the hive afforded. While bees are pouring from the entrance other bees are marching everywhere inside, and forcing themselves into every cranny. With small entrance and great amount of matching-space many may satisfy their appetite for excitement without going out at all. If it was desirable I suspect I could fix a set of upper stories so as to retain in the hive say one-third of the swarm—sometimes. Furthermore, bees much belated in getting out may lose the location of a distant cluster, and return to the hive after a short flight near by. Of course, whatever bees happen to be at work in the fields return to the old stand—sometimes very few, and, sometimes, I think, very many. I may be mistaken, but I *think* that bees of a new swarm often feel disgruntled with their new quarters, and return *individually* to the old stand during the first 48 hours, sometimes in considerable numbers.

QUEEN PLAYING SQUIRREL.

I can't quite accept that, Mr. Getaz, that the queen is not thinking of the operator, but only of the light, when she plays squirrel behind a limb with me. She's too quick and keen of purpose for that theory, I ween. Page 614.

A MODEL OUT-APIARY.

That's the way to have your out-apiary (home apiary, too,) the way Harry Lathrop has his on the first page of No. 40. Have a good, high, tight board fence around it. Then have some trees, not too big nor too many. Not absolutely necessary to copy the honey-vinegar barrel reposing under a tree—but it's all right if you do.

CLIMATE AND SECTIONS IN BEE-KEEPING FRANCE.

That the climate of bee-keeping France should be called (and by a Frenchman, too,) northern Wisconsin, with an earlier spring and a milder winter, is hardly what we should expect. Probably northern Wisconsin is nicer than a stay-at-home Ohio man would picture it. Also, Mr. Dadant was candid in telling us that sections in France are such as no American would use at all—so rough and dark. Page 629.

THAT SCHEME OF BEE-PASTURE-OWNERSHIP.

The trouble with your scheme of pasturage-ownership, Dr. Miller, is with the *details* of it. It would be handy, as well as just, to have some way quietly and legally to hold off the predatory bee-man, who wants to flounce into an occupied location with a big apiary, and crowd the occupant out. But how to frame the legal bars so as to keep the bad cow out and let the good cow in, that is a tough problem for the law-carpenters. We feel and confess the right of ordinary farmers to have a few colonies of bees for their own use if they want to. Any law taking this right away would probably be unconstitutional, and therefore worthless. But the farmers bee-corner, not worth calling an apiary, *might* take a notion to grow—like Topsy—and change ownership. A law adjusting number of colonies to acres would fearfully overrate the whole region, else unconstitutionally wrong the man who owned a rich bit of pasturage—and the upshot would be that we should all eventually have to pay for rights which we now get gratis. The prevalent apathy on the subject, Doctor, is largely a disinclination to bring dead snakes to life. We can get along *somehow* with the occasional snake already in life; but we don't want the brood which agitation of this subject would hatch out. Page 616.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Chaf-fPacking for Winter-Cases.

I have winter-cases 3 inches wider than the hive, and high enough to take a super. What do you think is best to do—put on a super with a Hill's device, and fill with chaff, or leave the cover sealed to the hive and put chaff all over it? I have winter-canvas to fit the cases. I would rather have the supers in the house, but want to know what you think is best. NEW YORK.

ANSWER.—Your idea of putting on the super filled with chaff agrees with that of experienced bee-keepers in general. Of course, burlap or something of the sort will be over the frames so the chaff can not sift down among the bees.

Preparing and Feeding for Winter.

1. How would you prepare 5 colonies of bees or more for winter in a dry-goods box, large enough for them out-of-doors?

2. How shall I feed my bees for winter?

3. How can I make a bee-feeder?

4. How can I make a smoker? IOWA.

ANSWERS.—1. The most troublesome thing in the case is to preserve a passage from the hive-entrance to the outside of the box. Make a sort of box open at both ends that shall allow a constant passage with no possibility of being closed up. Fill up around and over the hive with dead leaves, planer-shavings, chaff, or something of the sort, and then see that it is covered so that no drop of rain can work thru. Of course, you don't mean five or more colonies in one box, but a box for each.

2. Give them combs filled with sealed honey. If you haven't these, it may not be too late to feed syrup made of granulated sugar, or you can make candy, for either of which you will find instruction in your bee-book.

3. You can buy a good feeder cheaper than you can make one, except the crock and-plate feeder, which answers the purpose very well. Take a one-gallon stone crock or other vessel, fill it as full as you desire with syrup, lay over the crock a covering of thick woolen cloth or 5 thicknesses of cheese-cloth, over this put a common dinner-plate upside down. Now with one hand under the crock and the other over the plate, quickly turn the whole thing upside down. Set this on the brood-frames of the colony to be fed, with an empty hive-body around it well covered so that no bee can get to it from the outside.

4. You might learn to make a smoker, and so you might learn to make a coat, but it is cheaper to buy.

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GENERAL ITEMS

Bees Did Fairly Well.

Bees have done fairly well this year. But few bee-keepers have done as well or better than I did. The drouth in June—our best month for clover honey—lessened the crop, H. G. WALKER.

Stearns Co., Minn., Oct. 20.

Spirea or Verbena for Honey.

I would like to know about the quality of honey gathered from Coryopteris mastacanus, commonly called blue spirea and shrubby verbena. The plant grows luxuriantly here cultivated and bees fairly tumble over each other in their eagerness to work it. It has been in bloom full two and a half months to this date.

Our bees are working with a will now on asters and ironweed.

WM. CRENSHAW.

Fulton Co., Ga., Oct. 15.

Early Honey Crop.

We had a good crop of honey early in the season, gathered from the following sources: Maple, cherry, apple, raspberry, blueberry, blackberry, and one other bush, the name of which I can not give, but it blossomed just after blackberry, and this was the last honey we got until fall. There was no clover or basswood flow. Bees workt on goldenrod and asters a little but did not gather enough for winter stores, and many colonies will have to be fed, or starve before spring.

Our best flow in this locality was from apple-bloom, and many to whom I sold this honey said it was the best they ever ate. It was very thick, white, and had a nice flavor. It sold readily at 25 cents per pound, or section, in the home market.

ALBERT E. WILLCUTT.

Hampshire Co., Mass., Sept. 30.

Bees Did Poorly.

Bees did very poorly in this locality. I secured about 2,000 pounds of comb honey from 85 colonies the past season. The prices are very good—15 cents for comb honey—which helps us out. We hope for a better crop another year.

WM. M. DICK.

Ford Co., Ill., Oct. 17.

A Report for the Season, Etc.

The Dr. Miller queen, which reacht me some three months ago, has proven more than I anticipated. This was the first queen I had ever introduced to a colony. Already the hive is half full of her offspring, which are doing finely. Should they prove better honey-gatherers than my several colonies of black bees, I shall be glad to requeen these with the Dr. Miller stock.

It may be of interest for me to say that the State University town is here, some 10 miles northeast of San Francisco. We directly face the Golden Gate, the Bay of San Francisco inter-

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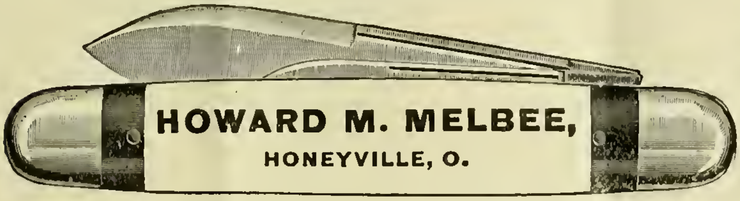

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The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

How to Get this Valuable Knife.—We send it postpaid for $1.10, or give it as a Premium to the one sending us Three New Subscribers to the Bee Journal (with $3.00.) We will club the Novelty Knife and the Bee Journal for one year, both for $1.90.

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It contains Platform, Sketches, Pictures and Letters of Acceptance of Candidates and much valuable Statistical matter. Full of Facts. An Argument Settler. Pass them around. Price, 10c per copy, postpaid; $1.00 per dozen, postpaid. Send your order at once to

ALONZO E. WILSON, Room 823—153 La Salle St., Chicago, Ill.

vening. Our climate is mild, but not especially adapted to bee-culture; however, I take great pleasure in my half-dozen colonies, which produced about 50 pounds each of comb honey the past season.

I desire to express my appreciation of the weekly visits of the valuable American Bee Journal, without which I would not like to be.

F. H. Krauss.

Alameda Co., Calif., Oct. 15.

Gather From Asters—Moving Bees.

Bees are gathering nectar from asters as we have not had any frost yet. I move my bees in the middle of the day when the thermometer is 94 degrees in the shade, with the help of a wet carpet doubled and laid over the hives.

Robert J. Cary.

Fairfield Co., Conn., Oct. 10.

Honey Crop Not Large.

I am a farmer and bee-keeper, and have only black bees. They used to store some surplus, but this year the honey crop was not large in this county. It is the first time it has been a failure here for many years.

Peter Sonneson.

Pine Co. Minn., Oct. 14.

Whistled to Prevent Stinging.

On page 578 is an account of bees settling on oxen, and the comment was, "so there are bee-stories as well as fish-stories."

I would like to tell one similar, and if there is any truth in man, it is absolutely true.

An old bee-keeper of our town, Mr. Ezra Somers, in his 80th year, told me how he got his first colony of bees. In 1835 he was drawing logs from the woods, and a swarm of bees settled on the neck-yoke of the oxen and on him.

We Can't Give Away Anything

You pay for what you get in this world. You understand that. But as a business proposition we want you to try our great medicine for Indigestion. Constipation, Biliousness, Sick Headache, Insomnia, "the Blues," and like complaints—

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Orders shipt immediately upon receipt. A complete line of everything needed in the apiary. Five different styles of Bee-Hives.

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E. T. ABBOTT, St. Joseph, Missouri.
Special Southwestern Agent.

SEND FOR CATALOG.

ARE YOU MAKING MONEY?

—Out of your poultry we mean. If not, there is something wrong. May be you didn't start right. We have a book called the **20th CENTURY POULTRY BOOK** which helps to start poultry people right and then keeps them right. Tells all about the business and about the best—Reliable Incubators and Brooders—used all over the world. Book sent for 10c. Order at once. **Reliable Incubator and Brooder Co., Box B-2 Quincy, Ill.**

Please mention Bee Journal when writing.

26 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 26 cents a pound—CASH—for best yellow, upon its receipt, or 28 cents in trade. Impure wax not taken at any price. Address as follows, very plainly,

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CALIFORNIA BELGIAN HARE ASSOCIATION. (INCORPORATED.)

We Are Importers and Breeders

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CALIFORNIA BELGIAN HARE ASSOCIATION,
Breeding Farm, Alameda, California. 340 Dearborn St., Chicago, Ills.

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Sample copy free. Mention this paper.

I have before me a copy of the American Fruit and Vegetable Journal, which I like pretty well. It fills the bill better than any paper I have seen lately. IRA C. TRACY, Foreman in the Home Nurseries.

I was much pleased to receive your publication. It is a very neatly printed and well edited journal, and merits success. D. W. BARKLEY, Editor of the "Rocky Ford Enterprise."

All departments of the Fruit and Vegetable business discust by practical and experienced persons.

FREE! We will send the above Journal absolutely FREE for one year as a premium to all old subscribers sending us $1.00 to pay their subscription one year STRICTLY IN ADVANCE. Both papers for the price of one. Send your renewal subscription to this office while this offer is open. Both papers, $1.00.

AMERICAN BEE JOURNAL, 118 Mich. St., Chicago, Ill.

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Cuts on four sides at once, without crushing or bruising. Endorsed by leading colleges. Highest award at world's fair. Send for circulars. M. T. PHILLIPS, Pomeroy, Pa., (Successor to A. C. BROSIUS)

Please mention Bee Journal when writing

He knew nothing about bees, but had heard if he whistled they would not sting him, so he commenced to whistle and drove his oxen slowly home, took off the neck-yoke and laid it down before a box, and the bees went in. At the present time he has 15 or 20 colonies in box-hives, but gets no honey, except late in the fall he brimstones one of his colonies.

(MRS.) F. W. SAGENDORF.
Fairfield Co., Conn., Oct. 13.

Poor Year for Bees.

This has been a poor year for bees in this part of the country. I increast from one colony to three with no surplus, and have had to feed for winter stores. Bee-keeping seems to be uphill business with me, having had two hard years to start with. T. BISER.
Buffalo Co., Nebr., Oct. 20.

Very Little Honey This Year.

My bees have done very poorly this year—almost as poor as in 1892 when I got no honey at all. This year I had a very little honey, and did not need to feed them. JOSEPH HENTRICH.
Grant Co., Wis., Oct. 17.

Poorest Season of All.

This has been the poorest season for honey that we ever experienced. In the spring—the latter part of May and the first of June—we had a very good honey-flow which lasted about 10 days. We had no more to speak of until about July 20, when we had a light flow from alfalfa and sweet clover.

This county averaged about 15 or 18 pounds surplus to the colony. I have 240 colonies, from which I secured 5,700 pounds.

We have foul brood in the southern part of the county.

A. F. STEVENSON.
Davis Co., Utah, Oct. 16.

Some Very Important Questions.

There is an old adage which says that "He who works without tools is twice tired," and there is also a well-understood condition among business men which makes the doer an undesirable credit risk, known as "doing too much business for his capital." I believe these sayings aptly fit a large number of the bee-keepers of this country. Take an inventory of your own plant, study the files of the apicultural press and see how often it is a

INCUBATORS FOR THE FARM

must be simple in operation, sure in results. That's the SURE HATCH INCUBATOR. anybody can run it, because it runs itself. Send for our free catalog and see for yourself how very successful it has been on the farm. It also describes our Common Sense Folding Brooder. We Pay the Freight. SURE HATCH INCUBATOR CO., Clay Center, Nebraska.

Please mention Bee Journal when writing.

FOR THANKSGIVING DAY

a rate of one fare and a third for the round trip has been authorized to points within 150 miles, on the Nickel Plate Road, Chicago Passenger Station, Van Buren St. and Pacific Ave., on the Loop. City Ticket Office, 111 Adams St. 38

matter of getting along without sundry tools, etc., or of making some poor substitute do. We do not have hives enough, excluder-boards or surplus stock of combs. How many have even a room exclusively for apicultural work, not to mention a building properly fitted for it?

Winter will soon be here with its stormy days and long evenings, affording ample opportunity for a careful inspection of your outfit. Is your apiary in the most convenient location? If you have no honey-house and work-house, can you build one? Have you a modern extractor, good uncapping-knives, a good smoker in good order, a good foundation-fastener? Have you suitable feeders ready for instant use when needed? If you rear even a few queens for your own use, are you properly equipt for it? Are your conveniences for preparing your crop for market all that could be desired?

Is your business stationery correct? Let it be of good paper and the printing artistic and well done. This is an item that will pay for careful attention.

Look all these things over and see where you can save steps, for these save time and that means money, even more than you may realize. See where you can increase your outfit to advantage. It is capital with which to conduct business.

Are you equipt to conduct your business most economically? Is your capital sufficient for the volume of business that you are trying to do?

These are questions which it will pay you to ponder well.

ARTHUR C. MILLER.
Providence Co., R. I.

HOW MANY EGGS DOES A.... HEN LAY ?
Keep a record and know. Our new catalogue in addition to telling about the Humphrey Green Bone and Vegetable Cutter (the easiest running and most rapid cutter) contains blanks for a year's record. It's free. Humphrey & Sons, Box 56 Joliet, Ills.
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Chicago.—The regular semi-annual meeting of the Chicago Bee-Keepers' Association, will be held in Wellington Hall, 70 N. Clark Street, Saturday, Nov. 3, 1900, from 2 to 5 in the afternoon, and 7 to 9 o'clock in the evening. Dr. C. C. Miller will probably be present. The regular annual election of officers will occur. The general subject for discussion will be reports on the season's work. All bee-keepers are requested to send questions by mail to the President, Mr. George W. York, who will assign them to others to be answered. Ladies are especially invited to be present.

GEORGE W. YORK,
MRS. N. L. STOW,
HERMAN F. MOORE,
} Executive Committee.

Illinois.—The 10th annual convention of the Illinois State Bee-Keepers' Association will be held at the State House at Springfield, on Tuesday and Wednesday, Nov. 20 and 21, 1900. Railroad rates will be an open fare and a third without certificates. Notice will be given later if a better rate is secured. A good program is expected. Those who wish the full benefit of the meeting will have to be in attendance.

JAS. A. STONE, Sec.
R. R. No. 4, Springfield, Ill.

Colorado.—The Colorado State Bee-Keepers' Convention will be held Nov. 21, 22, and 23, 1900, in Denver. The horticulturists meet at the same time and place. F. RAUCHFUSS, Sec.
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Light Amber Comb Honey. Please mention quantity you have, how put up, from what flowers gathered, and what price you ask f.o.b. Chicago.
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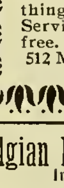
43Atf Please mention the Bee Journal.



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What? Our New Champion Winter-Cases. And to introduce them thruout the United States and Canada we will sell them at a liberal discount until Oct 15, 1900. Send for quotations. We are also headquarters for the NO-DRIP SHIPPING-CASES.
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The leading Horticultural and Agricultural paper of the Pacific Coast. Publisht weekly, handsomely illustrated, $2.00 per annum. Sample copy free.
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will sell tickets within distances of 150 miles, Nov. 28, 29, at rate of a fare and a third for the round trip, account of Thanksgiving Day. Return limit Nov. 30th.
This road has three thru trains daily to Ft. Wayne, Cleveland, Erie, Buffalo, New York and Boston, carrying vestibuled sleeping-cars and affording excellent dining-car service, individual club meals being served, ranging in price from 35 cents to $1.00. Write John Y. Calahan, General Agent, 111 Adams St., Chicago, for reservation of sleeping-car accommodations. Chicago Passenger Station, Van Buren St. and Pacific Ave., on the Elevated Loop. City Ticket Office, 111 Adams St. 39

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Oct. 25.—Fancy white, 16c; No. 1, 14@15c; No. 2, 12@13c; amber, 10@12c; dark, including buckwheat, 9@10c. Extracted, best white, 7¾@8c; light ambers, 7@7½c; dark ambers and buckwheat, 6½@6¾c. Beeswax, 28c.

A steady market prevails with all the best grades of honey in good demand.

R. A. BURNETT & Co

KANSAS CITY, Oct. 25.—Fancy white comb, 14@15c; receipts light; amber, 13@14c; dark amber, 9@11c; slow sale Beeswax, 24@25c; fair demand; light receipts.

W. R. CROMWELL PRODUCE CO.,
Successors to C. C. Clemons & Co.

BUFFALO, Oct. 26.—Fancy honey is just about unobtainable, and not a case noticed in market. Such would sell at probably 20c. Few lots fair to good are selling at 16@18c, and very poor 14@16c. Shortest crop we ever heard of. Wax—none coming. For extracted, Buffalo is a poor market. BATTERSON & CO.

ALBANY, N. Y., Oct. 29.—We quote fancy white, 17@18c; No. 1, 16c; mixt, 15c; buckwheat, 13@14c; amber, 13@14c. Extracted, white, 9@10c; mixt, 8@8½c; dark, 6, 6½@7c.

H. R. WRIGHT.

BOSTON, Oct. 26.—Our market on honey continues strong, with light receipts. Fancy one-pound cartons, 17c; A No. 1, 15@16c; No. 1, 15c; No. 2, 12@13c. Extracted from 7½@8½ cents, according to quality. Beeswax steady at 25@27c.

BLAKE, SCOTT & LEE,

CINCINNATI, Sept. 21.—The demand for fancy comb honey is good and finds ready sale at 16@16½c; No. 1, 15c. The demand for extracted honey at present is slow and offer same by the barrel as follows: White clover, 8½@9c; Southern, 6½@7½c; Florida, 7@8 cents, according to quality. Beeswax, 27c.

The above are MY SELLING PRICES. I do not handle any honey on commission, but pay spot cash on delivery. C. H. W. WEBER.

NEW YORK, Oct. 19.—During the past two weeks, receipts of comb honey have been quite extensive, several carloads of California and Nevada honey having arrived, and some large shipments of buckwheat, and for the present there is plenty of supply to meet the demand. We quote: Fancy white comb, 15@16c; No. 1, white, 14@14½c; fancy amber, 12½@13c; amber, 11@12c; buckwheat, 10@11c.

There are no new features in regard to extracted honey. The demand is fair at unchanged quotations. Beeswax dull at 27c.

HILDRETH & SEGELKEN.

DETROIT, Oct. 22.—Fancy white comb, 15@16c; No. 1, 13@14c; amber and dark, 10@12c. Extracted, white, 7@8c; dark and amber, 5@6c. Beeswax, 26@27c. M. H. HUNT & SON.

SAN FRANCISCO, Oct. 17.—White comb, 13@14 cents; amber, 11½@12½c; dark, 8@9c. Extracted, white, 7½@8c; light amber 6¾@7¼c; amber, 5½@6½c. Beeswax, 26@28c.

Stocks of all descriptions are light, and especially is water white scarce, the latter being hardly quotable. Stocks of amber comb are of fair volume for an off year. Former quotations remain in force, with market decidedly firm for all desirable stock.

WANTED—HONEY AND BEESWAX.
We have a tremendous and growing trade in this line, and would like to hear from all who have such goods to sell in any part of the country, with quality, description, and lowest cash price. THOS. C. STANLEY & SON, Fairfield, Ill.

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What have you to offer and at what price?
33Atf ED WILKINSON, Wilton, Wis.
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If you are interested in Sheep in any way you cannot afford to be without the best Sheep Paper publisht in the United States.
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has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.
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☞ W. M. GERRISH, East Notingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.

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And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white)	60c	$1.00	$2.25	$4.00
Crimson Clover	70c	1.20	2.75	5.00
Alsike Clover	80c	1.50	3.50	6.50
White Clover	90c	1.70	3.75	6.50
Alfalfa Clover	80c	1.40	3.25	6.00

Prices subject to market changes.

Add 25 cents to your order, for cartage, if wanted by freight.

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24A24t CHICAGO, ILL.

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Shipping-Cases, Root's No-Drip; Five-Gallon Cans for extracted honey, Danz. Cartons for comb honey. Cash or trade for beeswax. Send for catalog. M. H. Hunt & Son, Bell Branch, Mich.

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Beeswax Wanted ❊ ❊ ❊

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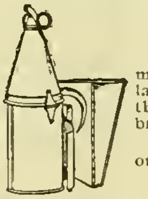

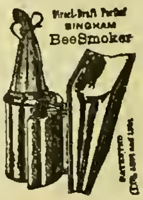

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No wonder Bingham's 4-inch Smoke Engine goes without puffing and does not

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The perforated steel fire-grate has 381 holes to air the fuel and support the fire.

Prices: Heavy Tin Smoke Engine, four-inch Stove, per mail, $1.50; 3½-inch, $1.10; three-inch, $1.00; 2½-inch, 90 cents; two-inch, 65 cents.

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are the original, and have all the improvements, and have been the STANDARD OF EXCELLENCE for 22 years. Address, **T. F. BINGHAM, FARWELL, MICH.**

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Catalog of Apiarian Supplies and Queens free.

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Four Celluloid Queen-Buttons Free

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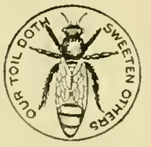
OUR TOIL DOTH SWEETEN OTHERS

OUR TOIL DOTH SWEETEN OTHERS

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NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate, it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

Prices of Buttons alone, postpaid: One button, 8 cts.; 2 buttons, 6 cts. each; 5 or more, 5 cts. each. (Stamps taken.) Address,

GEORGE W. YORK & CO., 118 Michigan St., CHICAGO.

AMERICAN BEE JOURNAL

GEORGE W. YORK,
Editor.

CHICAGO, ILL., NOVEMBER 8, 1900.

FORTIETH YEAR.
No. 45.

WEEKLY

G. M. DOOLITTLE, of New York,
Director of the National Bee-Keepers' Association.

THE AMERICAN BEE JOURNAL.

PUBLISHT WEEKLY BY
GEORGE W. YORK & Co.
118 Michigan St., Chicago, Ill.

'Entered at the Post-Office at Chicago as Second-Class Mail-Matter.

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—BY—

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—o—

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AMERICAN

BEE JOURNAL

The Oldest Bee-Paper in America

40th YEAR. CHICAGO, ILL., NOVEMBER 8, 1900. No. 45.

Editorial.

Confidential to Our Subscribers.—Now that the flurry and worry of another quadrennial political campaign are over, we can all get down to business again. We would like to suggest that the first business at this office is to continue to furnish just as good a bee-paper every week as we possibly can, considering the support or patronage extended by bee-keepers generally. And sometimes we are led to believe that our efforts to supply a good bee-paper are almost successful—yes, quite so, if we may accept at their full face value the appreciative words so often exprest by some of the best bee-keepers in our land.

Well, there's nothing so very "confidential" in all we have said so far, is there? Right you are; but here's what we want to say very effectively, if possible:

We want *you* to *help* during this month and next—November and December—to increase by at least 50 percent the regular subscription list of the old American Bee Journal. Will you do it?

How can it be done?

Firstly, the time for renewing for another year your own subscription is near at hand. Don't fail to renew, for by so doing the present large list of readers will remain, and an advance will thus the more easily be possible.

Secondly, get *at least one new* subscriber to send with your own renewal. Now, some will be able to secure more than one, and thus make up for those who can not possibly get a single neighbor bee-keeper to subscribe. There are many who *think* they are just as well off without a bee-paper, but every one who has read any of the papers for even a short time knows better than to believe such a statement, for they can now judge from their own experience.

Now, we are not asking any one to spend his time for nothing when trying to get new subscribers, for we are continually offering valuable premiums for such work. Of course, we can not afford to offer as large, or perhaps as valuable, premiums as can some of the other bee-paper publishers, for we believe we furnish, every year, for the one dollar subscription, as much, if not more, bee-literature than any other two bee-periodicals publisht in this country. We are sending 52 copies for $1.00—less than *two cents each!* Where is there to-day anything like such value for so little money?

But we need not tell our readers what they already know, tho we think perhaps there is no harm in reminding them of some facts that are likely to be overlookt or forgotten.

Now, the question is, Will *you* try your best to help increase the number of regular subscribers of the American Bee Journal, and thus enlarge its sphere of influence, and make possible still greater improvement in its contents? We believe you will. You have done it before, and so we know you can do it again. There is no good reason why the American Bee Journal shouldn't have the largest list of regular subscribers of any bee-paper in America. It has over half as many now, so that it ought not to require such a great effort to put it in the lead.

We shall be pleased to mail all the sample copies of the American Bee Journal that you can use among those whom you would like to get as subscribers, if you will let us know how many you can use; or if you will send us the names and addresses, we will mail them direct. But, please say, when sending the names, whether or not *you* expect to try to get them as subscribers.

Let us all push for a great subscription campaign during the last two months of this closing 19th Century.—The 20th Century is dawning. Shall not the old American Bee Journal welcome it with the largest number of the best bee-keepers ever enrolled in one list of regular readers of current bee-literature? What is *your* answer? *We* are ready to do *our* part.

◆

Cans or Barrels for Honey.—Editor Root is a square man in general, and a square-can man in particular. He says:

> "Every now and then we are receiving barrels of honey almost empty. Our readers already know of our experience, of the honey running out, and on to the bottom of the cars, and how the robber-bees made things lively for all the railroad men. Our honey-buyer says square cans should always be used for white honey. If we get it in barrels we have to go to the expense of putting it into cans, because our trade calls for it in that way. Low grades of honey are generally put up in barrels because the bulk of it is used for manufacturing purposes. But the best grades should be put into cans, if for no other reason than that the honey can be sold in large or small lots. Many customers will take one or two cans when they would not take a whole barrel."

The square five-gallon pound can is *the* package for holding extracted honey. But you want to be sure that you have a well-made can, for cans sometimes come apart at the seams or joints, and then they will leak worse than a barrel. Tin cans have a big advantage in not soaking up any of the honey as do barrels. There is a big loss due to soakage, and both the producer and the consumer of the honey seem to expect the dealer or middleman should stand that loss. To this we object. If the bee-keeper persists in using the barrels he is the one that should bear the loss from soakage.

◆

A Pocket to Save Wax.—Here is a bright hint from G. H. Harrison, in the Australian Bee-Keeper:

> One thing we all want to watch, that is when we *have* the wax, to see that we keep it. I was always a miser in that regard, and carried a wax-pocket, into which every little scrap, bur-comb, or ball of wax, after eating a titbit of comb, was hoarded. Without this, these bits get left on the tops of hives, get melted down, blown away or wasted in some way. In many apiaries the leakage in this way is very great, and in these days we can't afford it.

◆

Agricultural Managers Wanted.—We note the following paragraph on this subject in the October bulletin of the Missouri State University, at Columbia:

> MANAGERS WANTED.—Each year the College has numerous requests for young men who are properly trained to take charge of stock farms, dairies, creameries, and orchard plantings. Thus far the supply of men with the proper training has not been equal to the demand.

The same shortage might be noted in regard to managers of apiaries. There is always a good demand for the right kind of young men—those who are properly trained and equipt for the work of managing things agricultural. There never has been such a need as now for educated and pushing young farmers—the kind that know how to do things, and are not afraid of soiling their hands or clothes in doing them.

The greatest weakness in all the trades or professions is the incompetency of the individual. And the worst of it is, many of these same individuals don't care. This is what causes so much vacant "room at the top," and such a crowded condition at the bottom, of the ladder. The young man or woman who would get up in the world nowadays, as heretofore, must work—must climb. And after doing all that is possible to merit success, competition in many lines of the world's work is so keen, that often it is well-nigh impossible to "Arise and shine." But the discouraged worker never gets very far ahead.

We believe that along agricultural lines is one of the best openings for the young man or young woman who would make the most of life, and also win the greatest success and enjoy life to the fullest extent.

◆

Water for Bees, says Dzierzon, in the Lpzg. Bztg., is of very great importance in the spring. He thinks the best way is to furnish it in combs in the hive. Use a comb that has never contained brood, and the comb will not be injured thereby, no matter how long the water stays in it. According to Dr. Dzierzon, if you want to see how much the bees use, give it to them in a comb, and then see how soon the comb is cleaned out dry.

◆

Age of Brood-Combs.—In one thing the bee-keepers of this country seem to differ from the rest of the world in considering that age is a benefit rather than a detriment to a brood-comb. M. Brabant, in Le Progres Apicole, laughs at the idea of brood-combs 10 years old. He says if the bee-keeper neglects to renew them, the bees do not. Give, says he, a set of old combs to a swarm, and watch. After a few days the bees have torn down the cells to the midrib, perhaps even gnawing away the base, and building all new.

American bee-keepers, in their turn, will laugh at M. Bratrant, well knowing that comb 10 or 20 years old, if in good condition, will be carefully cherisht by the bees, swarm or no swarm. If bees are in the constant habit of renewing comb before it is 10 years old (he says such comb is a myth), they cover up their tracks so carefully that they are never caught in the act. At least not in this country.

Perhaps Mr. Brabant would insist that "locality" has something to do with this matter!

◆

Red Clover and Bees.—S. P. Culley, in Gleanings in Bee-Culture, discusses the chance of getting bees with tongues long enough, so that the crop of red clover honey may be harvested. He seems to favor working at the clover end of the problem, and thinks it is a work for the specialist, and if seedsmen can see enough money in it they may reach the desired result. Editor Root says his company are ready to offer a substantial reward for seed of red clover upon which hive-bees can work, providing such clover will reproduce its kind with constancy; but referring to subsequent difficulties he says:

> Even if we did get one variety of short-tubed clover, our bees would go right in and mingle the pollen of the red and short-tubed varieties, with the result that the next crop of seed would grow a long-tubed clover. If we grow the one variety our neighbors would be almost sure to grow the other. Here is a little mountain in the way. If one were to attempt to grow short-tubed clovers he would have to get all his neighbors to raise the same varieties, and here again we might encounter the difficulty that we have already experienced in regard to alsike.
>
> I am not sure, after all, but the problem would be easier solved by stretching the tongues of your bees.

Weekly Budget

Mr. F. Greiner, of Ontario Co., N. Y., wrote us thus appreciatively, Oct. 27th:

> "The report of the proceedings of the Chicago convention of the National Bee-Keepers' Association is interesting indeed. It seems to me it is the best report we ever had."

◆

Mr. G. M. Doolittle is pictured on the first page of this number. He needs no introduction to our readers. The engraving shown is a new one which we had made last week from his latest photograph, taken within a month. So all can now see just how their and our good friend looks on paper. We think it is a most excellent picture of Mr. Doolittle.

◆

Mr. Walter S. Pouder, a large city honey-dealer, in an article in Gleanings in Bee-Culture, says: "I hope the day of putting honey in barrels is past." Blessed hope. Then when bee-keepers will use only the best-made tin cans, and not poorly-made ones, everybody will be happy. The 60-pound tin can is a winner for holding and shipping extracted honey.

◆

Mr. E. S. Lovesy, of Salt Lake Co., Utah, writing us Oct. 24th, said:

> "The honey crop here this year, if we consider the entire State, I think was only about half of the usual amount, and possibly not over an average of 50 pounds per colony. While some run into the hundreds, many did not get over 25 pounds to the colony. I appreciate very much the dress, general appearance, and contents, of the 'old reliable' American Bee Journal."

◆

Mr. Jas. A. Stone, of Sangamon Co., Ill., wrote us as follows, Oct. 30th:

> "I am glad to see the picture of Father Langstroth's monument in the Bee Journal, and I think the words of the inscription could not be better. We bee-keepers surely have one poet in our ranks.
>
> "Bees have workt a little all fall, and are at it yet, as we have had no killing frosts so far. Our bees were light, we thought, at Fair time —the last week in September—but now they are very heavy, so we will not have to feed them."

◆

Own Land of Your Own. — Mr. T. B. Terry is known almost everywhere in this great country of ours as one of its leading farmers. We have met him, and have heard him speak to an audience. He knows several things, and can tell all about them. Here is a sample of the kind of advice he writes for the Practical Farmer—every boy should read it and profit by it:

> Hold on to your land, friends, if you have some. If you haven't any, it will be a good thing to work for. It is inspiring actually to own even a small piece of land. Mr. G. tells how he traded an old watch, not worth a dollar really, for a little piece of poor land when he was a boy. And then his father said he paid too much for it. But he said he went out on that land, poor as it was, after it was deeded to him, and it thrilled him thru and thru to think he owned the ground he stood on, away down to the center of the earth, away up to the stars. Birds were sitting on the branches of the trees, and singing—*his* trees and *his* branches, and their songs never sounded so sweetly to him before. It is a valuable ambition for every young man, every boy, to own a piece of land, if no more than an acre. Save your money, boys, toward buying some land where you can make a little Garden of Eden, your home when you get older. Perhaps it would be well to put your money in a good savings bank, and let it accumulate until the right time comes for investing it. If you loved the country, with its pure air and sunshine, and quiet and independence, as much as the writer does, you would never pay one cent for tobacco or liquor, but would save everything possible to be used in getting a country home for your best girl and yourself. I hardly ever talk with a business man in town without finding out that he means to get a farm to live on in his old age. Many men working on a salary have said that, as soon as they could pay for a good farm they intended to change their business. Most men love the country, in summer at least; and in many sections now it is easy to live on the farm and get into a large place by electric car readily. Thus, one can live in the best place and have many of the advantages of town within his reach.

◆

The Reformed Spelling used in the American Bee Journal seems to be gaining a foothold among its readers. Here is what Dr. Miller wrote us last week:

> I wish to remark that I am surprised at the effect the reformed spelling is having. I am surprised to see so many who send questions using it. C. C. Miller.

We have often noticed that those who write to us are rapidly falling into line, and are naturally beginning to write their words as they read and see them printed in the American Bee Journal. It is strong evidence that the spelling of the whole English language could be reformed in a very few years if all publications would unite for its success. But we are willing to be among the leaders, and let the rest follow when they get ready to do so.

◆

Little Miss Ethel Acklin was quite a favorite at the late convention, with her songs accompanied on the piano by herself. Her picture graces a page in Gleanings in Bee-Culture. She is as winsome as can be, even fascinating Dr. Mason, and tempting him to race around in the hall during intermission. Did we hear some one say that it doesn't take very much in the feminine line to fascinate the Doctor? Well, that may be true; but the jovial Doctor and Miss Ethel were all right, and helpt much to make the great convention a completer success than it otherwise would have been.

◆

While Stenog, of Gleanings in Bee-Culture, may sometimes seem a little exacting in his criticisms, he is nevertheless a good critic in the true sense of the word, and likes to mention the good as well as the bad. Here is his estimate of the report of the Chicago convention now running in these columns:

> The prominent feature of the "Old Reliable" just now is the report of the late Chicago convention. This is doubtless the best report of the best convention the bee-keepers of this country ever had. The report alone is worth all the paper costs for a year.

◆

Mr. C. A. Hatch, of Richland Co., Wis., writing us Oct. 29th, said:

> "There has been more than the usual amount of feeding necessary this fall to prepare bees for the winter. I had plenty of honey in the combs for mine, but one bee-keeper reports feeding 3,000 pounds of sugar for winter stores."

Convention Proceedings.

Report of the Proceedings of the 31st Annual Convention of the National Bee-Keepers' Association, held at Chicago, Ill., Aug. 28, 29 and 30, 1900.

BY DR. A. B. MASON, SEC.

(Continued from page 694.)

A. V. Bishop—I came here this afternoon to attend your exercises and to hear the discussion from my friend and colleague, Mr. Burnett, on the trials of commission merchants. I am also in that class of business myself, and I was thinking as he spoke about ignorance, that there is another sister who always goes along with Ignorance, and that is Superstition; in this case it may be Suspicion. We stand in a place where we are suspicioned by our shippers, and they expect we are going to be like the firm down in Buffalo some years ago, which consisted of I. Catchem and U. Cheatem. But allow me to say in this presence that commission merchants are, as a rule, good men, very much like yourselves, that we do have a conscience, and that we do purpose to do about the fair thing, or else we would not do anything a great while. Mr. Burnett referred to a shipper of 1876. I have had shippers who started over 30 years ago, and they are alive now, and they are not afraid to ship some more. The trials of the commission merchant lie along the way of the fact that the shippers do not understand what the commission merchant has to do. We want to take a case of honey, for instance, and present to our patrons. He says, "Is that honey all right?" I say, "Yes, sir, the man that shipt that honey puts as good sections in the front of the case as he does in the back of the case, and just as good in the back of the case as he does in the front of the case." He says. "I will take that if you know that is true." But we open the case of honey and we find in the center some poor sections; then we find in the back, where they don't expect you will ever go, some very poor. That is one of the trials which we have in selling honey; and it is very desirable that the shipper of honey should treat the commission merchant fairly, that he may stand up and defend his patron, and that he will also supply his customer so he will be satisfied. We stand, as it were, between two fires. We don't want to get burned on your side or on the side of our customer, because we simply serve the interests of both. We desire to do that, and to be treated fairly. If we ship honey to a man, that man expects to get a fair return, and will get a fair return considering the quality. We are supposed to know what the market demands and the difference between white and black, and the difference between No. 1, 2 and 3, and we get as near to the value as circumstances will permit. We desire to have your confidence; we desire to build on that basis, because a man stands then as a reciprocal law, and it is the only way to prosper, and we will prosper if we do that. Men ship honey to market and expect the next day to get a return and get full value; that can not always happen. Honey is a luxury, and a very desirable thing. I like to have it on my table every day in the year. I love to smell it because it is very sweet. We want a good quality, and then we can obtain a good price. If it is poor quality you can not expect to get as good return as if it is first quality. The trouble always comes from a man who sends an inferior article. If there is a shipper on earth who knows what No. 1 honey is, and puts it up in No. 1 style, he knows very close what he is going to get. A man who ships an inferior article and expects to get a good price is the man who finds fault—he is the one who says he is treated unfairly. That is one of the trials we have to meet. I thank you for listening, and I appreciate this presence, and I hope all here will remember that a commission merchant has his trials, and you must help him to obtain the good prices by sending a good article.

Mr. Hatch—I would like to ask Mr. Bishop what kind of a case he prefers to have honey in, what size and what style, 12-pound, 24-pound, or 48-pound.

Mr. Bishop—In answer to that I would say a one-story case is preferable to two-stories; a 12 or 24 section-case is desirable in our markets. I believe the one-story case is shipt with less breakage than the two-story case, and when honey is commanding the price it is now, it is better to have a good proportion in small cases. Many times a dealer will buy a small case when he will not buy a large one. I find the small cases hold a lot, and there is less breakage, it is very easily inspected, and, if found to be all right, it sells very readily.

Mr. Hatch—Does Mr. Burnett agree with that?

Mr. Burnett—Yes.

Dr. Mason—Mr. Burnett says the trials of commission men are the result of ignorance—ignorance of whom—commission men? I have found the trials of the commission men have been largely the result of the ignorance of the commission men of the men they are having to deal with. I have made collections in several instances in the name of the Association, from commission men that were not acquainted with this Association. As soon as they became acquainted with it they were ready to "pony up" the cash. I am going to report one case. He buys and sells honey, and has been for two years trying *not* to settle a bill with a member of this Association, and this year we are going to expose him; it will come out in my report to the Association. He will not get any more honey from any member of this Association, or anybody we can influence. His name is H. P. Robie, editor, and, I believe, proprietor, of the Successful Farmer, Sioux Falls, S. D.

R. L. Taylor—I would like to ask Mr. Burnett and Mr. Bishop what advantage there is in non-drip cases.

Mr. Burnett—A non-drip case, I think, is quite an advantage, if the inquiry is confined to that case. It is a great injury to a nice shipment of honey to have one case injured and smear a half dozen or more of the others. There is some ignorance about managing those non-drip cases. If the party putting the honey in the non-drip case does not fasten the strips in the bottom of the case so as to keep them in their proper place, they are really a detriment to the honey. The sections get out of place and get damaged in that way. When the strips are properly put in their place, and the paper properly arranged, I certainly recommend the non-drip case.

Mr. Bishop—I agree heartily with what has been said, and the cause of the advantage is when these pieces are fastened they hold the drip from the sections and prevent it running out and smearing other cases, unless there is so much breakage as to run over the strips. If there is only a little drip, the lower portions of the sections do not get smeared with the honey, and when they come out they are clean. It is an advantage, decidedly so.

ELECTION OF THE EXECUTIVE COMMITTEE.

Pres. Root—If there is nothing further, we have come to the special order of business, the election of officers of the annual meeting, or executive committee. The other officers are elected in the beginning of the year thru the work of Mr. Secor. We will now listen to nominations for president.

Mr. Kretchmer—I nominate Mr. E. R. Root for president.

Mr. Abbott—I second the nomination. We have had a most excellent meeting, and a most excellent chairman, and I do not think that we have any disposition to make any change or put anybody else in nomination. The fact that he has been able to get such men as Mr. Burnett on the program by such a shrewd scheme as he has practiced, is an indication to me that he is the very man for the occasion; and this meeting having proven so very successful under his direction, I think it is no more than fair to the Association that we work him a little longer. He won't want to, but he will. He will kick about it and think somebody else ought to have the honor—don't pay any attention to him; it will all come right in time, and I second the nomination most heartily.

Secretary Mason—For fear Mr. Root may be a little slow in appointing tellers to count on his side, I am going to take the liberty of appointing tellers. We have no vice-president here, so I suppose I will have to do this work.

Pres. Root—We have not heard any other nominations yet.

Dr. Mason—We are not going to have any other. I will appoint Mr. Moore, Mr. York, and Mr. Green as tellers. If there are any other nominations to be made we will listen to them after we have voted.

Mr. Smith—I move the rules be suspended, and that the secretary be instructed to cast the vote of the Association for Mr. Root for president.

The motion was seconded and carried, and Dr. Mason cast the vote for Mr. Root for president for 1901.

Pres. Root—I was not expecting anything of this kind. I had in mind two or three other gentlemen who would be most worthy of your honor. I had an intention of doing something of this kind, and thought I would be able to do it, but when I get such men as Messrs. Abbott and Mason against me, it is pretty hard work.

Dr. Mason—We want you to understand you are not running this Association entirely.

Pres. Root—I want to thank you all for this exhibition of confidence. I am no speech-maker. If I wanted to make a really good, all-around speech I would call on Dr. Mason and Mr. Abbott, and a few of these other friends. We will now listen to nominations for vice-president.

Dr. Mason—I would like to nominate Mr. R. C. Aikin, of Colorado.

The nomination was seconded, and on motion the rules were suspended and the secretary instructed to cast the vote of the Association in favor of Mr. Aikin for vice-president.

☞ Dr. Mason—I don't want anybody to get the impression that I am trying to run this convention, but I do want to nominate Mr. Moore for secretary.

Mr. Moore—I withdraw absolutely. I could not take it under any circumstances. I move that the rules be suspended, and that Pres. Root be instructed to cast the ballot for Dr. Mason for secretary.

The motion of Mr. Moore prevailed, and Pres. Root cast the ballot for Dr. Mason as secretary.

Dr. Mason—I want to say in regard to the work that has been done this year, you are largely indebted to Pres. Root for the success of this meeting. I never had so much trouble with a president before in getting up a program as I have had with him; it was trouble, trouble, all the time. I could do hardly anything with him; he was bound to have his own way. He has had it, but I have agreed with him every time; but he has workt faithfully; he has spent time and money; he has not spared himself work and trouble. And I want to say another thing, we owe the Chicago Bee-Keepers' Association a great, big debt of gratitude for the way they have treated us. That will come out in the way of resolutions. These nice badges they presented to us free of expense. You know they are somewhat expensive. We have appreciated this, I am sure. Another thing, we have here sample copies of the American Bee Journal, the Bee-Keepers' Review, the American Bee-Keeper, and Gleanings in Bee-Culture—they are here for you to take with you; take them home and read them, because each and every one of them has some good things in it.

Pres. Root—Do you wish to make a motion or offer a resolution?

Dr. Mason—No, that will come in later.

TRIALS OF THE COMMISSION MERCHANT (CONTINUED).

Pres. Root—I was going to say we had to chop off the discussion we had a little while ago right in the midst of the time it was most interesting, and Mr. Hatch suggested he would like to ask the commission men some more questions. If it is the pleasure of the convention I will turn it over to Mr. Hatch and tell him to "fire away." Silence gives consent. Mr. Hatch will put more questions.

Mr. Hatch—It is not often that you can get two commission men like Mr. Burnett and Mr. Bishop where we can question them. We have one bone of contention, and that is, What is the best package for shipping extracted honey? Now that we have these two commission men here—and they probably handle the biggest part of the crop of this audience—if we can have their opinion on this question as to which is the better, cans or kegs for extracted honey, it will be dollars and cents in our pocket. I would like to have them give their opinion.

Mr. Moore—This matter will come up on Thursday afternoon in Mr. York's paper, and it seems to me we might pass it over to be discust under that paper.

Mr. Hatch—These men won't be here then, in all probability; we want their opinion now. Mr. York's opinion is all right.

Dr. Mason—Mr. York may want to re-write his paper after he hears what they have to say!

Mr. Burnett—I am very much indebted to my fellow merchant for the kind manner in which he has come to my support this afternoon, and as I have pride in all these things—and especially as this is my home—I desire to tender the opening address to Mr. Bishop, and I ask the president to ask him to make the opening address on this very important matter.

(Continued next week.)

Contributed Articles.

One of the Borers—A Bee-Killer—Swarming.

BY PROF. A. J. COOK.

UNDER a separate cover, in a little box, I send you a singular insect which I captured in the act of working its ovipositor in the seams of a water-cask between the staves. The cask is kept standing near my well. If you will kindly tell the American Bee Journal about it you will greatly oblige me.—A. R. SEAMAN, Pennsylvania.

ANSWER.—The insect came safely, tho it was a wonder that it did so, as the slight pasteboard box was crusht as flat as a griddle-cake. I know the insect well, as I have seen and taken many in Michigan, and some of the same genus here. This one—Tremex columba—is very common in Michigan, and is a borer. It is a Hymenopteron, and so belongs to the same order as do our pets of the hive. The bees, however, are the highest of the order, while these "horntails," as they are called, are the very lowest. They are very large, often more than one and one-half inches long, are a smoky-brown in hue, with an abdomen whose black is lined with yellow after the fashion of many wasps. Very likely this color arose, thru natural selection, to mimic bee and wasp so these would be past by a ravenous bird in quest of savory insect. The bird has learned to respect wasp and bee because of previous experience, and has now a wholesome dread of any insect in stripes. Thus our horntail may thank his ringed dress for escape from many a bird banquet.

At the tip of the body is the large ovipositor, referred to by Mr. Seaman. This is triple in its make up, like that of the bee. It, however, can not sting. It uses this to bore into wood, as this is one of the great family of borers, and the larvæ do very much harm by thus boring into trees. They often bore into the hardest, like the maple, to find a safe place to lay their eggs. As they do this in the bright sunlight, and are often a long time doing it, we see that they would be greatly exposed were they not guarded by their stripes.

I say that maple is a common tree for them to bore. I have given a fine picture of this pigeon Tremex, as it is often called in my "Maple Sugar and the Sugar-Bush." It often gets its large auger in so far and tight that it can not get out. I have caught them in this dilemma, and one now is in the museum of the Michigan Agricultural College that I captured thus fastened, and he, or she, I should say, now is pinned with a chip of the wood where it was impaled, if that is a proper way to state it. Very likely it gets so weary boring in the hard wood that it is too weary to extricate its auger.

The Tremex is not very common, or else it would work great harm in the timber of our forests. They work on not only maple, but beech as well. While, as I have shown, they are safe largely from the birds, they are not so from a large, fine Ichneumon fly. This great fly, longer even than the horntail, and with an ovipositor three inches long, finds the place of the boring larval horntail, and bores in and lays the fatal egg—fatal to the latter. These also get caught, as I have frequently seen them and taken them apparently fixt to the wood where they were boring for the Tremex. Isn't it curious that they can tell just where the borer is, tho the latter is deep in hardest wood? They doubtless have sense-organs that we could not begin to equal.

THE PHYMATA OR BEE-KILLER.

The other day some goldenrod came to me in a box, while I was busy with my large laboratory class. I opened it enough to see what it was, and to read a word in a note that an insect was in the flower of the plant, and thus hid could kill bees which it was quick to capture and kill. I did not see where the letter, which was lost, or box came from, nor who sent it, but I am of the opinion that it came from the American Bee Journal office.

The insect was one of the bee-killers, Phymata erosa. It has strong, jaw-like front legs. By use of these it can grasp and hold even the strong, stout bee until it sucks its blood and life from it. It is strange that the Phymata is colored like the flowers, so it is hid in its own color, and, like the horntail, it is saved or helpt by its strange mimicry. This law of mimicry is a great savior in the lower realm of life. In the horntail it keeps the bird away; in the Phymata it hides the foe so that the bee runs into the very jaws of death. The student of insects, indeed of all life, sees countless examples of this mimicry in his quests, and soon comes to regard it as a great factor in the economy of life.

The Phymata is curious in the wonderful development of its leg-jaws, which I have figured in detail in my "Bee-Keepers' Guide." On pages 419-21 will be found full drawings and description of the structure of the insect and its work.

SWARMING CRITICISMS.

Mr. Editor, why can we not all be as kindly and sweet in our criticisms as is Mr. Hasty? I will tell you why it is—we have not all the same measure of the Christ spirit as he has. Wouldn't it be blessed if we had? Hasty illustrates most perfectly the passage, "Out of the abundance of the heart the mouth speaketh." I wish all hearts had the abundance of kindly feeling and sympathy that is ever shown by our friend. I would like to visit his place; and there is one thing that moves me thus, and that is the man there that every bee-keeper has learned to love.

I, of course, meant famine swarms in speaking of swarming because of no food. Swarms that occur early in the spring—disturbance is surely what sends them off. I still believe it is in other normal cases. We know that bees often prepare the home in advance. This being true, we may believe that they always do, till our good friend, or some other, shows to the contrary.

I have always wondered that the opinion so generally prevails that bees will not cluster without the queen, as that is almost always the case, as I have observed for years.

Los Angeles Co., Calif.

Successful Cellar-Wintering of Bees.

BY DANIEL WHITMER.

My hives are the 8-frame Langstroth, with honey-boards on all, some with wood and others with perforated-zinc boards, and having a super of my own construction for surplus comb honey, altho I use some of the Heddon reversible supers with good success.

I place bricks having two holes in each on all hives, and use small, flat blocks, fitting them in the holes for summer use as sign-blocks. One side of the block is painted, and the other is left the color of the wood, but planed, upon which I make any record necessary in the manipulation of my bees. By the position of the bricks, sign-blocks, and entrance-blocks on the hives, I can see at a glance, no matter what part of the yard I may be in, any colony that has swarmed, any that may be queenless, any that may be weak, and almost anything that needs to be done without opening the hive for investigation.

I pass thru the yard every day in swarming-time to see by the sign-blocks any colony needing internal work of any kind, such as pruning queen-cells, introducing queens to queenless colonies, grafting cells, liberating queens, etc. Of course, I use numbers on the hives, and keep a record on a double slate for each season.

I have catalpa trees in my apiary, which are very profuse bloomers, and do not make as dense a shade as some other trees, but enough so I do not need shade-boards.

My apiary contains 160 colonies, nearly all being pure Italian bees, and are docile and amiable to handle. I have not purchast a queen for 10 years or more, but rely on my own rearing of queens for purity.

The front row of hives to the right in the yard is 1½ rods from my dwelling and bee-cellar, and just north of them the rows of hives run east and west and due north and south. The rows of trees are located the same way, presenting a very attractive appearance to visitors in the summer time.

Under my dwelling, or a part of it, is located my winter repository for the bees. The main part of the house stands with the gable end north, and on the east of this, or to the left, is an addition 14x24 feet, under which I place the bees, on the floor; and on a level with the floor of the main house is our dining-room. In the east end of this addition is a honey-room, made by a partition thru it 10 feet from the east wall, and a door from the dining-room opens into it. In this room I keep comb and extracted honey, as well as doing the extracting, putting sections together, putting foundation in brood-combs and sections, etc. In the partition and in the dining-room there is a chimney, and in the back of the flue in the honey-room there is a 4-inch hole just opposite the hole in the flue in the dining-room; and in the floor of the honey-room there is also a 4-inch hole with a thimble in it to receive a 4-inch pipe running from 10 inches of the cellar-floor upward, intersecting the hole in the flue in the honey-room, making a ventilator of 12 feet in length from the bottom of the ventilator. I have a funnel-shaped apparatus to assist in drawing out the impurities of the cellar, if any have collected, and it is quite a success, as there is quite a draft when the hand is placed in the mouth of the ventilator.

When the temperature of the cellar gets too low I close the mouth of the ventilator with a stop with springs riveted to it, pressing it against the inside of the pipe. I keep the temperature as near 45 degrees, Fahr., as I can, and, strange to say, it is not a difficult task to do this.

Besides this ventilator, I have two windows in this cellar—one on the south side of the cellar wall, and midway from each corner. This window is under the veranda, the latter being on three brick pillars, hence all open underneath, giving plenty of air to the windows.

Midway in the wall on the east end of the cellar I have another window the same size as the first mentioned, namely, 12x24 inches. These windows lie the long way horizontally with the wall on the outside of the window-frame. I have wire-screen tackt on, such as is used for screen doors and windows. This is for the purpose of keeping bees, flies and varmints out of the cellar, as well as to protect the straw in the ventilating-frame, which I am now going to describe.

This ventilator is composed of a frame made of ½-inch lumber, made to fit exactly the inside of the window-frame, and as large as the window-frame is wide inside, less the jam or rabbet in which the glass window-sash fits. On one side of these ventilating frames I nail strips of wood ½ inch by ¾, then fill and pack snugly with straw or marsh hay. Then on the other side nail the same kind and size strips. These strips of wood keep the straw from falling out of the frames. When I place my bees in the cellar I shove these ventilating frames in the window-frames of the cellar. These frames are a necessity for the very good reason that they keep the cellar dark so the bees will not leave the hives in wintering, and at the same time give sufficient pure air, which is quite satisfactory.

On the inside of the window-frame I have a window-sash containing six lights, three on each side of the sash, giving a dead-air space when the sash is placed in the jam and closed. These windows are used in cold weather to prevent the cellar from getting too cold. The sash is hung on hinges on the upper side, and to the upper jam of the cellar window-frame, so that when I wish to raise the window-sash for ventilation, or for any other cause, all I have to do is to take hold of the lower side of the sash and raise it up, fastening it to the ceiling of the cellar. This gives me perfect control of the interior of the cellar, so far as humidity and temperature are concerned.

My bee-cellar is 24x14 feet, outside measure, 6½ feet deep, is walled with stone from the bottom up, and is 18 inches thick. I would not have any other kind in this locality. The bottom of the cellar is composed of sand and gravel, and is perfectly dry. By the way, I am considering the propriety of cementing the bottom of my cellar, for the only reason that it would be more convenient and satisfactory to sweep the dead bees off the cellar floor, yet I do not know whether it would be for the best. Will some one having experience come to my rescue by informing me about it? I wish to let good enough alone.

I have another building north of the one just described, 11x24 feet, and a cellar under this one also. This cellar runs northward toward the apiary, and is the same depth as the bee-cellar. There is a door opening into it, thru which I carry the bees into the repository. In cold weather I keep this door closed, which is also used as a means of ventilation. Pretty big tube, isn't it (this cellar) thru which to breathe oxygen? But, you see, I like much of it for my pets, and it makes me rest at night.

In the north end of this cellar I have another door with a window in it, also a window on each side, so that I can ventilate as I please, and darken them if I choose.

I have but three steps to get on a level with the bottom of the bee-cellar, as my house is on a hill, and the bottom of the last cellar mentioned opens out in the side-hill. This makes it easy to get into the cellar with the bees, which I carry by means of a rope doubled just long enough so I can place it over my neck and around the opposite side of the hive from me, and under the cleat on the hive ½ inch below the top of the hive. These cleats are intended for covers or rims to telescope ½ inch over the hive, as well as for hand-holds.

I tier up my bees in the cellar three and four high, if necessary. I place them 8 inches above the cellar bottom, on scantling which are resting on brick, and I do not allow the scantling or hives to touch the walls of the cellar. I have had as high as 247 colonies of bees in this cellar at one time with success, losing none but queenless colonies, which I would just as soon lose as not. For several years I have lost but one or two colonies each year in wintering. Give me good, strong colonies with 20 pounds of honey each, and I can go to sleep at night knowing that my bees are coming thru, tho we may have zero weather for months at a time.

The bottoms of my hives are nailed fast to the body. The hive-entrance is left open ½x12 inches. The honey-boards are left on the hives with a quilt or muslin cover well propolized on the boards. They have no upward ventilation, but I am of the opinion that it would be better if there was more room between the frames and bottom of the hive.

I place my bees in the cellar about Nov. 20, and leave them until the forepart of April, or until they can gather from black alder, black willow, and the soft maples.

St. Joseph Co., Ind.

No. 4. Interesting Notes on European Travel.

BY C. P. DADANT.

BEFORE I leave Geneva I must mention the pleasant surprise we had there. We staid but a day, and, in the morning, as I walkt away from the breakfast table, in the Hotel Suisse, I found myself face to face with Mr. J. T. Calvert, the business manager of the A. I. Root Co. I was so much astonisht to find him there that I had to hear his voice before I recognized him. I knew he was in Europe, but thought him far away. He was with the Christian Endeavor people, and they had just completed a tour of Switzerland, while we were beginning ours. As you will readily imagine, we had a good, long talk about Europe, and about the possibility of our meeting again, which we did at Paris, later on.

So we started on our trip thru Switzerland, and the first night was spent at Fribourg, where we were lucky enough to happen on the evening of a concert by the world-renowned organs of their cathedral. I had heard church organs many times before, but none such as these. They are said to be the finest in the world. The church is lighted only sufficiently to allow the visitors to find their way to the seats with a very few dim lights, and in the darkness of that imposing edifice one listens with wonder to music which runs from the frightful sounds of a terrific thunder and wind storm to the sweetest strains of the Alpine horn from the distant mountains. We only spent an hour there, but we were both, my daughter and myself, so entranced with the music that we thought we had been there but half of that time.

The following day saw us at Berne, the capital of the Republic, and we visited the new Federal Palace, saw the parks, paid our compliments to the Bernese bears, and crost a few of the suspension bridges over the Aar River, which winds about the city at the bottom of a deep gorge in the manner which seems to be customary with the Swiss streams. It makes the landscape very picturesque.

From Berne we went to Thun and crost the Lake of Thun on a steamer to Interlaken, with mountains on both sides, and the Jungfrau and its snowy summit in the distance ahead. The town of Interlaken, with the two lakes of Thun and Brienz on either side, with half a dozen inclined-plane railroads ascending high peaks within half an hour's ride in almost any direction, with its fine hotels, and rugged surroundings, seemed to us to be the very center of the tourists' excursions. And there is no lack of tourists anywhere, especially English and Americans.

Well, we took in the trip to the Jungfrau, or rather to the spot that was nearest to the Jungfrau by rail, inclined-plane railroads, and went up beyond the line of the pines where nothing but a little short and velvety grass grows. For a few days bees were entirely forgotten, yet I must say that I found profuse blooms and bees at work upon them, almost as far as the station called Kleine Scheidegg, which is but a mile or two beneath the eternal snows of the peaks, and about 8,000 feet above sea level.

Switzerland is certainly well fitted for bee-keeping, for all of its uplands are pastures, and many of the slopes in the valleys are in meadows composed of different plants which bloom profusely. The mode of agriculture of the Bernese Alps is very peculiar, and puzzles the traveler who looks for a large number of cattle in a country where everything is meadows. But no cattle are to be seen about the farms at this time. During the winter the cows are kept in the valleys, well stabled in the village barns, and fed on the hay gathered in summer. As soon as spring opens they are put into the hands of a shepherd, who takes them up the hills, and drives them farther and farther up as the snow disappears, so that when summer comes they are all on the cliffs away up above the pines, each cow with a bell, herded, milkt and sheltered among the precipices on the heights just below the snows of the peaks.

In the meantime, the farmers in the valley below harvest two crops of grass from their fields and store it in little sheds—broad-roof "chalets"—built here and there and everywhere, all along the slopes. This hay is fed to the cattle as they come down away from the snows at the approach of winter. It is in this manner that they have solved the problem of removing their crop from often inaccessible fields. So there is an almost perpetual travel with the cattle from the valley to the mountain in the spring, and from the mountain back to the valley in the fall. The short, but thick and tender grass, growing on steep hillsides, among rocks and bushes, in ditches, and, in fact, in places where a man can hardly hold himself upright without a support, is all cut, cured, and put away, and is said to pay well for the labor involved, altho I am sure that our average American farmer would not think it worth the trouble of harvesting.

Apiaries are numerous, and as the Swiss farmer is very fairly educated, movable-frame hives are much used. Nearly all the honey is extracted, as in France, for the reason that it sells best in that shape.

In most of the Swiss hotels where we stopt during our trip, we were served extracted honey at the breakfast table, the early breakfast usually consisting of milk and coffee with bread, toast and butter. I have since been told that a great deal of adulterated honey is sold under the name of "mellose," but I must say that what I ate at different times seemed to me to be excellent honey, for it had the flavor, the consistency, and the sweetness, of the true article. Their best honey is harvested from esparcet, but they have also a great deal of alfalfa, rape, mustard, and an abundance of fruit-bloom, besides the wild flowers of the meadows that I have mentioned previously.

Our ascent on the inclined-plane railroad to the Jungfrau's new electric road was the pleasantest of our trip. The road follows the windings of the Linth—a precipitous stream formed from the water of the melting snows—to Lauterbrunnen, thence it ascends the edge of a cliff on the left, and from hill to hill reaches Wengern, Scheidegg, where the electric road branches off and goes down again on the opposite side in an irregular circle to Grindelwald and back to Interlaken. When we reacht Lauterbrunnen, where we had a 40-minutes stop, I spied a small village thousands of feet over our heads on the right, with a cable road leading to it by an almost straight route. I askt some one the name of that village. "It is Murren," was the reply. I felt rather sorry that we had not decided to go that way, it seemed so high up. But soon after that the train started up the opposite hill, and I was so busy admiring the frightful way in which we were leaving the tall pines like green spots under our feet—as each of the little engines, with its single car of human freight, pusht us up farther and farther—that I forgot all about Murren. When we arrived at Wengern, I saw a few clustered houses away down below us on the opposite hill, and askt again what village that was. "It is Murren." Our ascent had been so rapid that I did not realize till then the dreadful height we had traveled.

Those far-up mountain-peaks, which seem to be lost in the clouds, and entirely remote from civilization, are nevertheless daily visited by thousands of people. The train on which we made the ascent was divided into five sections, each of one car and one locomotive, each section about 200 feet from the next, so that in the windings of the ascent we could easily see one section above us and one below. I calculated that about 200 people were with us at that hour, and as there are three or four trains each day, and hundreds of pedestrians besides, who take great pride in walking every inch of the way, I am satisfied that over a thousand people made this trip the same day that we did. But when the snows are reacht few are the lovers of danger who go farther.

But go up ever so high you will be sure to find the inevitable dealer in picture postal-cards, alpenstocks, and St. Bernard dogs. Everybody gets the postal-card craze, for every one is desirous of making his friends acquainted with a view of the fine scenery he sees, and altho those photographic views are cold when compared with the reality, they convey some idea of the wonder of those scenes.

Mr. Perry McDowell and His Apiary.

My beginning in the bee-business was in 1888, when I found and captured a swarm in a tree in the woods, and from this start has grown my apiary, as shown by the accompanying picture.

Besides the hives there will be seen the small trees which furnish shade for the hives, and the two persons are myself and little boy—my only help in the business.

In the 12 years my apiary has grown from the one swarm to 60 nice, healthy colonies, with a yearly output of over 2,500 pounds of honey.

I have also improved my stock by buying queens from the best breeders in the United States, until I now have them to the highest degree of excellence; and from the old oak-tree to the latest improved hives, run especially for comb honey, and as yet I have never been able to supply my home demand for honey at fair prices.

My success with bees has aroused great interest thruout the community, and so visitors at my place are many, all of whom express surprise at my supply of stock, and the honey I handle.

Besides the honey-production, I have been fairly successful the last two years in rearing queens on the "Doolittle" plan, for myself and neighbors.

During my 12 years' work with bees, I have not lost a single colony by moth, and have won all the premiums offered on honey that I competed for at county fairs.

As shown in the picture, my apiary faces east, and the small trees are fruit-trees. Mason Co., Ky.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Molasses Not Good for Winter Stores.

I have 3 colonies of bees that I have to feed. What is the best feed? How is molasses? Is it as good as sugar? Bees did not do much here the past summer from 15 colonies I got only 100 pounds. Sugar is a little too high to buy at 7 cents a pound. I want to feed before it gets cold.
NEW YORK.

ANSWER.—You can feed molasses in the spring late enough so the bees are flying every day, but don't think of feeding it for winter unless you think that's a cheaper way to kill the bees than to brimstone them. It seems a good deal to pay 7 cents a pound for granulated sugar, but it's about the cheapest way to get along, and better than to let the bees die to save a dollar or so per colony. Don't dream of using anything but the best honey or granulated sugar.

Propolis in Water-Tight Cracks.

How do the bees crowd propolis thru between the edges of the sections when they fit together *water-tight?* Don't say you "don't know," for we think you *do* know. Don't forget the trowel theory, or that the propolis may be "partly digested." PENNSYLVANIA.

ANSWER.—Bees crowd propolis into cracks perhaps not entirely water-tight but certainly very small. I wouldn't like to be too positive about it, but I think they do it with their tongues, when the propolis is warm and thin. By the "trowel theory" I suppose you mean the theory that a bee uses its sting as a trowel for spreading wax. If it can spread wax with its sting, it ought to be able to work propolis in the same way. The trouble is that there is not the slightest proof that the sting is ever used for spreading wax, the whole "trowel theory" being one of the wildest vagaries ever conceived in the brain of man. I think there is no proof that propolis is ever "partly digested," nor is there any need of such belief. On a hot summer day propolis becomes so thin that it is easy to believe a bee's tongue is sufficiently strong to crowd it into a small crack.

Tendency to Balling of Queens.

1. I appeal to you in my trouble, and altho you appear to be nearly omniscient in relation to bee-matters, I fear you will reply, "I don't know." My trouble is, the tendency my bees have to balling their queens.

First, a virgin queen, if in a moderately strong colony, is apt to be balled before she becomes fertile. My fertile queens often disappear, and as I frequently find one in a ball, I infer that that is the way the others went. Sometimes, during the honey-flow, I cage the queens, and liberate them near its close, and encourage breeding to secure a good supply of young bees for winter. On releasing the queens they nearly all disappeared, and by watching I found that they were balled.

I next tried caging the queens with bee-zinc, thinking that as the bees would all the time have free access to the queen they would certainly receive her kindly when released. But, no! I have tried the different plans advised for the introduction of queens—tobacco-smoke, leaving the bees queenless for some time in a box, *a la* Doolittle, etc., but generally to no purpose. I can not unite two weak colonies or allow a number of strange bees to enter a hive, without endangering the queens, no matter how much I smoke them. Some time ago a swarm left the hive, into which I had put them, and went into another hive, and both queens disappeared; they were both fertile.

I have had very good success with bees with this exception, and if you can give me a remedy you will do me a great service.

Never, to my knowledge, have I had but one case of the queen being balled, until 6 years ago, and I never heard of but one person complaining of such experience, and his only related to virgins; and so he put them in very small nuclei—just a handful

Apiary of Mr. Perry McDowell, of Mason Co., Ky.

of bees with each queen—till they commenced laying. I can save my young queens in that way, but then I can not safely give them strength except by giving them hatching brood, and I do not often have a frame of that without larvæ, which these few bees are unable to nurse.

Heretofore my bees had been blacks and Italians till 6 years ago, and since then I have had a mixture of golden. And the man who had trouble with his virgins also had some golden blood with his. Is it possible that that cross has had anything to do with it?

Unless you have heard of other such cases I fear you will consider me untruthful, and perhaps insane; but I don't know that I can furnish you any "more reliable testimony"—except for you to come and see for yourself.

2. Is it considered that bees that have been reared in a foul-broody colony have less vigor and energy than others?

When I read of using bees for incubators, my daughter suggested that "fowl"-broody bees would be best for that purpose. Wyoming.

Answers.—1. If a man should tell me that his bees came into his house, took some ropes, and harnessing part of their number moved their hive into a more sheltered location, I would have some doubt as to his veracity or sanity; short of that I could swallow whole almost anything told about bees, so I have no trouble in believing your story.

I wonder if you have told the whole of the story. You don't say what you do when you find a queen balled. Do you just leave the queen to her fate, or do you try to rescue her? I often find a queen balled, and if I try to free her from her tormentors, there is danger she may be treated the worse for it. But when I find a queen balled, I close the hive as quickly as possible, and the next time I get around to the hive the probability is that the queen is all right. This is true whether the queen be a laying one or a virgin. It is probably a very common thing for virgin queens to be balled on returning from a wedding-trip, for the commonness of torn wings points that way, but if the bee-keeper does not interfere they are likely to come out all right.

When a queen is caged, the bees seem to think she is not all right, for if she's all right why doesn't she keep on laying? And so it is not strange that they may have some thought of superseding her?

When giving strange bees to a queen, the chance for peace will be greater if the strange bees are from a queenless colony.

One would hardly think that a certain strain of blood would make a difference about balling queens, but still it is possible.

2. Yes, the likelihood is that bees in a foul-broody colony are weaker for the presence of the disease.

Carpenter-Bees—Presence of Drones.

1. I enclose you two Marechal Niel rose leaves that bees have cut pieces out of and carried off, for what purpose I would like to know.

2. Do the presence of drones in hives at this time denote queenlessness? Alabama.

Answers.—These leaves were not cut by hive-bees, but by carpenter-bees. With powerful and sharp jaws like a pair of scissors, they cut with great rapidity. Then they carry away the pieces and use them to construct a very ingenious nest.

2. The presence of drones is not conclusive proof of queenlessness. Here and there a few drones may be found quite late, and in rare cases they are suffered to remain over winter, notwithstanding the presence of a good queen.

Transferring Bees—Queen-Excluders—Extracting-Frames.

1. When and how would you transfer colonies in hives with odd-size frames into dovetailed hives with Hoffman frames filled with full sheets of foundation? I do not want to increase my number of colonies nor diminish my honey crop.

2. I am thinking of producing extracted honey. I do not like queen-excluders. Would you advise me to tier up and extract from the hive-bodies?

3. Are the shallow extracting-frames better than the full-depth ones? Northern Illinois.

Answers.—1. If white clover is your main crop, at the beginning of the white clover harvest take away all combs from a colony and give frames of foundation in place. That will leave the colony in the condition of a swarm, with-no thought of swarming, and giving full attention to the honey-crop. Just possibly, however, you might transfer the combs from one frame to another in fruit-bloom, saving the expense of the foundation. If you intend to work for extracted honey, proceed in this way: At the beginning of the harvest, put on the stand a hive filled with frames of foundation, over this a queen-excluder, and over the excluder the hive of brood, bees, etc., making sure that the queen is in the lower story.

2. Better overcome your dislike to queen-excluders. If that's too tough a job, tier up, and extract from those combs that have the most honey and the least brood.

3. Yes, the objection being that they can not be used interchangeably as brood-combs.

Late Dividing—Catnip Seed—Bee Journal Index.

I have 4 colonies of bees that gathered enough for winter, but no surplus. There was no surplus honey in this locality this year.

1. I have one colony of bees with two full brood-chambers—one the regular brood-chamber; I put the other on for honey, and the queen took possession, and now there is brood in both. Can I make two colonies of this? There are too many bees to drive into the one body. I believe there is but one queen. I have the 5-banded Italians.

2. Where can I obtain catnip seed? and at what price?

3. Is there an index to the Bee Journal? Kansas.

Answers.—1. At this time of year it would be unwise to divide the colony. The colony is in all probability none too strong for good wintering, and when a cold day comes you may be surprised to find into what a small space the bees can pack themselves.

2. For 5 cents you can get a packet of catnip seed from any leading seed-dealer. Watch the advertising columns of the Bee Journal about next February or March for seed offers.

3. A full and very valuable index appears at the close of each volume of this journal.

Value of Having Queens Clipt.

I wrote you some time ago your premium queen was killed, but she is not. I placed the caged queen between the combs for the bees to eat out the candy, and I did not open the hive till 10 days later, at which time the queen was out of the cage and there was no eggs laid but a number of sealed queen-cells, and I at once told you the queen was lost.

But a few weeks ago I sent to Ohio for an Italian queen; on receiving her I wanted to introduce her to this same colony. I opened the hive and found the colony strong in bees, and plenty of brood, and your queen with the clipt wing.

I always thought the new queen destroyed the cells as soon as she got out of the cage.

The queen is a good layer, for she has a strong family, and I will say the clipt wing saved your queen. I am thankful for having it so arranged as to have them clipt. The bees from your queen are one, two, and three banded, and I am well pleased with them. I will try them in 1901 as honey-gatherers. I hope you will excuse my mistake. Iowa.

Answer.—This is another instance of the advantage of having a queen clipt. But for the clipt wing this queen would have been destroyed as an interloper. It also shows that one must not be too hasty in voting a queen absent. Many a time it happens that a new queen does not lay for several days after leaving a cage; in some cases not for a week. Neither is the presence of queen-cells in such cases proof of queenlessness.

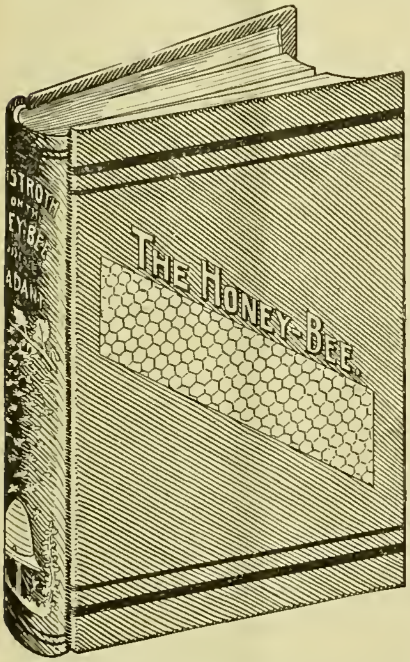
"**The Hum of the Bees** in the Apple-Tree Bloom" is the name of the finest bee-keeper's song—words by Hon. Eugene Secor and music by Dr. C. C. Miller. This is thought by some to be the best bee-song yet written by Mr. Secor and Dr. Miller. It is, indeed, a "hummer." We can furnish a single copy of it postpaid, for 10 cents, or 3 copies for 25 cents. Or, we will mail a half-dozen copies of it for sending us *one new* yearly subscription to the American Bee Journal at $1.00.

The Premiums offered this week are well worth working for. Look at them.

Langstroth on... The Honey-Bee

Revised by Dadant—1899 Edition.

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains over 500 pages, being revised by those large, practical bee-keepers, so well-known to all the readers of the American Bee Journal—Chas. Dadant & Son.



Each subject is clearly and thoroly explained, so that by following the instructions of this book one cannot fail to be wonderfully helpt on the way to success with bees.

The book we mail for $1.25, or club it with the American Bee Journal for one year—both for $1.75; or, we will mail it as a premium for sending us **THREE NEW** subscribers to the Bee Journal for one year, with $3.00.

This is a splendid chance to get a grand bee-book for a very little money or work.

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DITTMER'S FOUNDATION Wholesale and Retail

This foundation is made by an absolutely non-dipping process, thereby producing a perfectly clear and pliable foundation that retains the odor and color of beeswax, and is free from dirt.

Working wax into foundation for cash, a specialty. Write for samples and prices.

A full line of Supplies at the very lowest prices, and in any quantity. Best quality and prompt shipment. Send for large, illustrated catalog.

GUS. DITTMER, Augusta, Wis.
Beeswax Wanted.
Please mention Bee Journal when writing.

BEEDOM BOILED DOWN

Wooden Cell-Cups.

As a result of Mr. Doolittle's ingenuity it is quite likely that the bee-keeping world will be provided with a cell-cup, at an early date, which is practically indestructible. By its adoption, the use of cell-protectors will become entirely uncalled for in the queen-rearing apiary. Having queens hatch from holes in a block of wood has something of the sound of a fairy tale; yet this is exactly what Mr. Doolittle has been doing, and we are indebted to him for an account of his experiments in this line, as well as for specimens of the cells from which queens had hatcht.—American Bee-Keeper.

Putting Up Fruit with Honey.

I often read of putting up fruit with honey, but seldom see any reference to what constituted a decided objection to using honey instead of sugar for that purpose, if not done rightly; namely, a strong twang about the product, which, to my taste, is not nearly so agreeable as the taste of fruit put up with sugar. This seems to be owing either to the change of taste which honey undergoes when heated too high, or to strong-tasting honey, or both. But once at Mr. R. D. Willis' house I tasted some peaches put up with honey, which I would not have known had not been put up with sugar, if I had not been told. At one of the Montrose meetings Mrs. Willis told her method. She uses none but the whitest, first-crop alfalfa honey, which has the least twang about it of any honey gathered here; puts a *small* quantity of it in a shallow pan on the stove, together with a small quantity of peaches, and stirs constantly, removing before the honey is heated enough to alter its flavor, and never using the same honey twice. The idea is to keep from heating the honey all you can, and use only the whitest honey.—F. L. THOMPSON, in Progressive Bee-Keeper.

Honey Your Porridge.

If you have the exceedingly unaristocratic habit of sugaring your porridge, try a little honey on it instead of the sugar some morning. You will find it a great improvement on sugar.—MARTHA'S MANAGEMENT, in Chicago Record.

Outdoor and Indoor Wintering.

The beginner may be at a loss to know which method of wintering may be the right one for him, and it will be a good thing for him if he can fall back upon the experience of others in his region. If he cannot do that, the wise thing is to try both plans and compare results. Even with this he may not be able to come to any definite conclusion until after a term of years, for seasons vary so much that what is

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43Atf Please mention the Bee Journal.

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Root's Goods at Root's Prices
POUDER'S HONEY-JARS and everything used by bee-keepers. Prompt Service—low freight rate. Catalog free. **WALTER S. POUDER,**
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PATENT WIRED COMB FOUNDATION
Has no Sag in Brood-Frames.
Thin Flat-Bottom Foundation
Has no Fishbone in the Surplus Honey.
Being the cleanest is usually workt the quickest of any foundation made.
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Sprout Brook, Montgomery Co., N.Y.

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What? Our **New Champion Winter-Cases.** And to introduce them thruout the United States and Canada we will sell them at a liberal discount until Oct. 15, 1900. Send for quotations. We are also headquarters for the NO-DRIP SHIPPING-CASES.
R. H. SCHMIDT & CO.
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WANTED!

A lad 17 to 18, strong, active and resourceful, having had 2 or 3 years' experience with bees, to take a responsible part in the management of my apiaries next spring. I will give $15.00 a month, with board and lodging, to such an one, with an increast salary and interest in profits after first year. **W. R. ANSELL,**
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will sell tickets within distances of 150 miles, Nov. 28, 29, at rate of a fare and a third for the round trip, account of Thanksgiving Day. Return limit Nov. 30th.

This road has three thru trains daily to Ft. Wayne, Cleveland, Erie, Buffalo, New York and Boston, carrying vestibuled sleeping-cars and affording excellent dining-car service, individual club meals being served, ranging in price from 35 cents to $1.00. Write John Y. Calahan, General Agent, 111 Adams St., Chicago, for reservation of sleeping-car accommodations. Chicago Passenger Station, Van Buren St. and Pacific Ave., on the Elevated Loop. City Ticket Office, 111 Adams St. 39

SPECIAL NOTICE!

Last winter's cut of basswood is the whitest it has been for many seasons. We are now making sections out of this new stock and therefore are in a position to furnish you with the very finest quality in the market.

LEWIS WHITE-POLISHT SECTIONS

Are perfect in workmanship and color.

Orders shipt immediately upon receipt. A complete line of everything needed in the apiary. Five different styles of Bee-Hives.

Lewis Foundation Fastener simplest and best machine for the purpose. Price, ONE DOLLAR, without Lamp.

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WHY NOT BE SURE ABOUT IT?—Sure that an incubator will hatch before you pay for it. ☞ We will send you our New Premier Incubator On Trial, you pay for it after thoroughly testing it. Put eggs in it, make a hatch, then you'll know if you want it. First prize at World's Fair. Medals at Nashville, Omaha & Nat. Export Expo. Sole makers of Simplicity Incubators. Catalogue and "Poultry Helps" for 5c stamps. COLUMBIA INCUBATOR CO., 5 Water St., Delaware City, Del.

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26 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 26 cents a pound—CASH—for best yellow, upon its receipt, or 28 cents in trade. Impure wax not taken at any price. Address as follows, very plainly,

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We Are Importers and Breeders of Belgian Hares. Our stud is led by Wantage Fox, (score 96); Champion Duke of Cheshire, (winner 13 First and Gold medal); Buttercup (score 96). We have an unusually good lot of youngsters. For prices, etc., address our Chicago office.

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Have you anything to do with either Fruits or Vegetables? Then keep in touch with your work by subscribing for the

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Sample copy free. Mention this paper.

I have before me a copy of the American Fruit and Vegetable Journal, which I like pretty well. It fills the bill better than any paper I have seen lately. Ira C. Tracy, Foreman in the Home Nurseries.

I was much pleased to receive your publication. It is a very neatly printed and well edited journal, and merits success. D. W. Barkley, Editor of the "Rocky Ford Enterprise."

All departments of the Fruit and Vegetable business discust by practical and experienced persons.

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AMERICAN BEE JOURNAL, 118 Mich. St., Chicago, Ill.

Please mention the Bee Journal when writing Advertisers.

best for one winter may not be best for another. If he is without any precedent, a careful study of conditions may help to a decision whether to risk the greater part of his bees out or in. Upon this point here are some wise words from the editor of Gleanings in Bee-Culture:

> The beginner will often ask the question whether he shall winter bees indoors or out. The answer to this will depend upon the weather conditions. If one has in his locality cold weather that lasts nearly all winter, with only now and then a day of temperature above the freezing-point, I would recommend by all means indoor wintering; or if the weather conditions are such that there is a month of cold weather ranging from 10° above to 10° below zero, then a warmer spell a little above the thaw-point, followed by 3 or 4 days of weather at that temperature, followed again by freezing weather, such weather continuing clear up till actual springtime, then I would still advise the indoor method. But if, on the other hand, the winters are somewhat open, there being perhaps a month of zero weather, followed by a month of warm open weather, continuing thus thru the winter, the bees should be wintered outdoors in double-walled hives. We *may* have in our locality a month of real cold weather, but two weeks is about as long as it lasts at a time, when we will have a general breaking-up, a thaw, and perhaps rains. This will last for 3 or 4 weeks, when we will have another cold spell, lasting possibly a month. This kind of weather will continue in alternation till along in April. In such a climate the average beginner will do far better with the outdoor method.

GENERAL ITEMS

Hoping for Better Things.

The bee-business is at rather a low ebb here; last year was the worst one ever known in this locality for bee-keeping, and this year is but little better. But we are not going to give up just yet.

White clover is looking fine, so we hope for better things another year.

J. I. Clark.

Addison Co., Vt., Oct. 30.

Short Honey Crop.

My bees did fairly well, but most of the bee-keepers in this locality complain of a short honey crop.

I like the American Bee Journal so well that each week I anxiously await its coming. I would not be without it for twice its price. Wm. Hartwig.

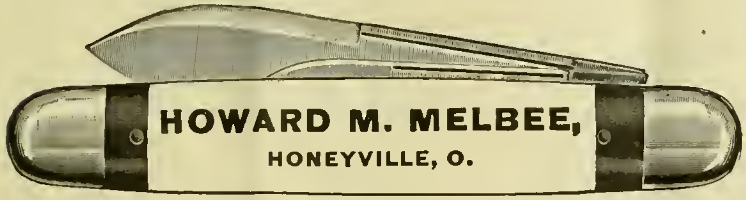
St. Croix Co., Wis., Oct. 29.

Japanese Knotweed.

I send a sample of a plant. The flower is on each little spur, and grows out on either side about ⅜ of an inch. It is pure white, and bees work on it more than on any other plant I ever

The Novelty Pocket=Knife.

Your Name and Address on one side—Three Bees on the other side.



[THIS CUT IS THE FULL SIZE OF THE KNIFE.]

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and in case of death, your relatives will at once be notified of the accident.

How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

How to Get this Valuable Knife.—We send it postpaid for $1 10, or give it as a Premium to the one sending us THREE NEW SUBSCRIBERS to the Bee Journal (with $3.00.) We will club the Novelty Knife and the Bee Journal for one year, both for $1.90.

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in car lots—wholesale or retail. Now is the time to get prices. We are the people who manufacture strictly first-class goods and sell them at prices that defy competition. Write us today.

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Please mention Bee Journal when writing

saw. As the plant grows the blossoms continue to come out to the topmost branch. It is not a common plant in this section, and I have the only one I ever saw. It grows with a stout, woody stock, and dies in winter, springing up from the root in early spring. What is it? and how came it to grow in my yard without planting?

F. R. WEBSTER.

Cheshire Co., N. H., Oct. 26.

Prof. C. L. Walton, of the Lake View, Chicago, High School, says:

The specimen is Japanese knotweed, Polygonum zuccarinii, and belongs to the buckwheat family. It is a native of Japan, and is cultivated in this country as an ornamental plant. In common with many other cultivated flowers it escaped, and is found growing wild in restricted sections on the Atlantic coast. Belonging as it does to the buckwheat family, it furnishes considerable honey, as this seems to be a characteristic of the entire family.

Just how the plant got started in Mr. Webster's garden I can not tell, but being a perennial it might have been planted by a former owner, or the wind or a bird might have carried the seed from a distance and dropt it there.

C. L. WALTON.

Some Experience with Bees.

I started with two colonies in movable-frame hives, and afterward bought two and caught one, and increast to 11 in two years. I bought 3 Italian queens of different breeders, and they are doing fine. My way of introducing them is to make the colony queenless for 3 days, go thru and destroy all cells, remove some brood for empty comb—if necessary, or early in the season then remove the covering from the queen-cage, and the cork or card-board over the candy, lay it just over and between two frames, replace the

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You pay for what you get in this world. You understand that. But as a business proposition we want you to try our great medicine for Indigestion, Constipation, Biliousness, Sick Headache, Insomnia, "the Blues," and like complaints—

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We know you won't buy it, until you know something about it. The best way to get you to know how good it is, is to let you try it. That's what we do. Send Stamp for "Health" booklet, and we will send you a free sample package, that you may try it yourself. We know you will always keep it in the house, if you once try it. What fairer offer could we make? At all Druggists—10 and 25 cents.

Handsome Stick Pin FREE! If, instead of sending for a sample, you send us 25c we will send you "Health" booklet, a 25c box and a handsome gold stick-pin, set with emerald, ruby or pearl, warranted to be worth double the money. Order by number. This is an extra introductory offer. Only one pin to one person. If unsatisfactory, money returned. Send now while the offer is good.

MODERN REMEDY COMPANY, KEWANEE, ILLINOIS.

[*This company will do exactly as it promises.—Editors.*]

A HANDY TOOL-HOLDER!

Sent by Express, for $1.50; or with the Bee Journal one year—both for $2.00.

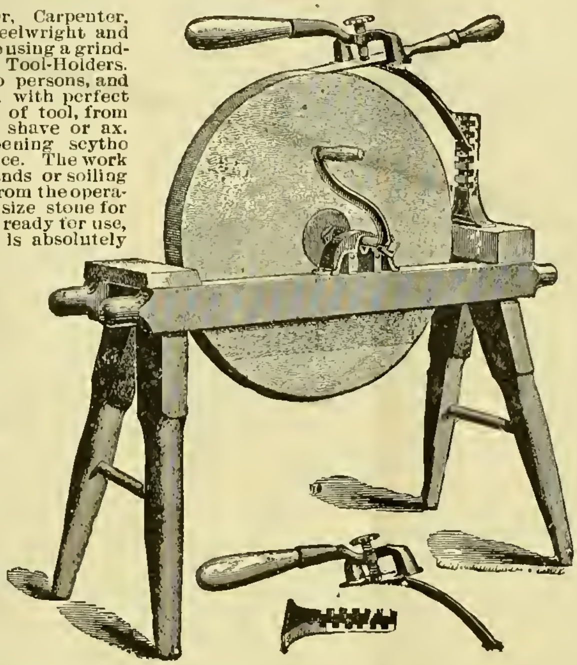
Every Manufacturer, Miller, Carpenter, Cabinet Maker, Machinist, Wheelwright and Quarryman, Farmer, or any one using a grindstone, should have one of these Tool-Holders. One boy can do the work of two persons, and grind much faster, easier and with perfect accuracy. Will hold any kind of tool, from the smallest chisel to a draw shave or ax. Extra attachment for sharpening scythe blades included in the above price. The work is done without wetting the hands or soiling the clothes, as the water flows from the operator. It can be attached to any size stone for hand or steam power, is always ready for use, nothing to get out of order, and is absolutely worth **100 times its cost.**

No farm is well-equipped unless it has a Tool-Holder. Pays for itself in a short time.

How to Use the Holder.

Directions.—The Tool is fastened securely in the Holder by a set-screw and can be ground to any desired bevel by inserting the arm of the Holder into a higher or lower notch of the standard. While turning the crank with the right hand, the left rests on an steadies the Holder; the Tool is moved to the right or left across the stone, or examined while grinding, as readily and in the same way as if held in the hands.

For grinding **Round-Edge Tools,** the holes in the standard are used instead of the notches.



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If you are interested in Sheep in any way you cannot afford to be without the best Sheep Paper publisht in the United States.

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has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.

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we sell. Are not those reasonable terms? That shows you how much faith we have in our machines. Either HOT WATER or HOT AIR machines. A child can work them. Eleventh year on the market.
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ELECTRIC HANDY WAGONS
excel in quality strength, durability. Carry 4000 lbs. They are Low priced but not cheap.
Electric Steel Wheels—straight or staggered oval spokes. Any height, any width of tire to fit any wagon. Catalogue FREE.
ELECTRIC WHEEL CO., Box 16. Quincy, Ills.

The Fannie Field Poultry Pamphlets Cheap.

We will mail you your choice of any of the following 64-page poultry pamphlets at **10 cents each, or all 3 for only 25 cents**—while they last:

POULTRY FOR MARKET.—It is written for those who wish to make poultry-raising profitable.

CAPONS AND CAPONIZING.—It shows in clear language and by illustrations all the particulars about caponizing fowls, and thus how to make the most money out of them. Every up-to-date poultry-keeper should have it.

OUR POULTRY DOCTOR, or, Health in the Poultry Yard, and How to Cure Sick Fowls. All about poultry diseases and their cure.

Remember, we mail the above at 10 cents each, or all three for 25 cents; or for $1.10 we will mail the three pamphlets and credit your subscription to the American Bee Journal for one year. Address,

GEORGE W. YORK & CO.,
118 Michigan Street, CHICAGO, ILL.

quilt, let alone for 6 days, and all is well.

I made a great mistake in taking some bees on shares, and probably if I had taken some bee-paper in time my apiary would have been saved. I noticed after taking them that these bees did not work as briskly as mine, or increase as fast, and when I examined them I found diseased brood. I hardly think it is foul brood, but, if it is, my loss will be somewhere near $50 or $60, and that would pay for two or more bee-papers for several years! I take two bee-papers, and if my apiary is wiped out I will continue to take them and start again in the business, as I have a great demand for honey.

We hear reports on the honey crop from Kentucky, Michigan, Illinois and Ohio, but nothing from Indiana—the garden spot of the United States. I think there is honey in Indiana, and I won't give it up just yet. With the poor season I secured about 30 pounds per colony from those that were in a condition to store honey.

Rix L. Haskitt.

Tipton Co., Ind., Oct. 20.

Bees Didn't Do Well.

Bees have not done well in this part of Ohio this season. I had 40 colonies, but 5 of them starved to death, and I had to feed the balance 800 pounds of sugar.

We have had several big rains during the last 5 or 6 weeks, and white clover has come up thick.

Noah Thomas.

Darke Co., Ohio, Oct. 26.

Cotton-Bloom Honey.

I am a beginner in the bee-business, and am very anxious to learn all I can of it. I have a number of colonies, and all have done exceedingly well this year, averaging about 50 pounds to the colony. The cotton-plant is our mainstay here for honey, and it is a good one. Our entire section is planted with it, and our bees lay in great stores of honey from the time it begins to bloom until November and December, sometimes. The honey from cotton-bloom is light-colored, very clear, and mild in flavor. It is as clear as glycerine, and the combs are almost as white as snow.

R. P. Davies, M.D.

Lamar Co., Texas, Oct. 29.

No Lost Swarms—An Explanation.

For the benefit of all bee-keepers in general, and Mr. Whitney in particular (see page 555), I will tell of a "like occurrence," except that no swarm was lost.

June 27, I clipt a young black queen. Wishing to Italianize this fall, on Aug. 28th I found the queen in the top of a 2-story 8-frame dovetailed hive. Her wings were entirely gone, tho I had only clipt a part on one side. She was very active, and of common black stock. I took her away, and lookt thru the combs twice for the other queen which I felt sure they had, because they were much stronger than I expected, had more brood, and were both black and hybrid bees. Sept. 1st I found so many eggs that I hunted till I found a fine, active young queen.

Now I'll explain: Last summer when I realized that my Dr. Miller queen would be too late for use this season, I got one elsewhere, which arrived June 11th. I also got some experience when I tried to introduce her—the queen was balled, etc. However, success rewarded my perseverance, and soon she was treating us to a "praise service." I had let her loose on a comb, and she stopt several times to pipe. Looking closely we could not see a motion of wings or body while she was piping, but she seemed to be flat on the comb with her head in a cell, and her throat on the edge of it. In a few days a queenless colony was starting cells (part of which were finisht in the young black queen's hive), in the second story, and no excluder on to keep the queen below.

The blacks had built cells of their own which I cut out. June 27th the black queen went up into the top to lay, and my choice cells were destroyed. Then I put capt cells into West cages, till I could prepare nuclei and have ripe cells for them. Some hatcht in less than 16 days, and I lost them, or supposed I had, till I found this young queen. This shows that the young queen was reared in the hive while there was a black laying queen in it all the time.

I now have 40 colonies, mostly with Italian queens mismated, there being few of the pure stock near me, but lots of blacks and hybrids. I workt for increase, so secured no honey this year. The honey crop has been light in this valley for two years.

In closing, let me thank you, Mr. Editor, for the Dr. Miller queen, which came Aug. 6th. Not a bee died in the mails. Some queens have hatcht from this stock. CLARK S. FUGE.

Clackamas Co., Oreg., Oct. 13.

Clumsy and Capricious Spelling.

[Our system of spelling is so irrational that one wonders how it happens that educated men, apparently kind-hearted in other respects, should insist that tender childhood shall continue to be tortured by it. The number, however, of those who are outspoken against the continuation of the atrocity is on the increase, and some day the number will be so great that they will not fail to be heard. Here is a man who speaks in no uncertain tones in that most influential of all dailies, the Chicago Record:—EDITOR.]

EDITOR THE RECORD:—I can offer no adequate explanation of the discreditable fact that college freshmen misspell one out of every eight fairly selected words. It certainly seems to suggest that spelling is neglected or improperly taught in the high schools, as intelligent and systematic drill will certainly enable any one of fair ability to write correctly all words in common use. I have often said, however, and take this occasion to repeat, that the authorized spelling of English words is so clumsy and capricious as to be a national scandal and disgrace, and that the educators and legislators who tolerate such a chaos are far more to blame than the young people who are confused by it. To adopt the rules of spelling recommended by the English and American Philological Associations would save years of time to scholars, and millions of money to printers and the public. A rational, uniform spelling, a straight road to good speech and writing would be more valuable than a transcontinental railway or a Nicaragua canal or decimal coinage. Why can not we have it?

C. W. PEARSON,
Professor of English, Northwestern University.

Illinois.—The 10th annual convention of the Illinois State Bee-Keepers' Association will be held at the State House at Springfield, on Tuesday and Wednesday, Nov. 20 and 21, 1900. The I.O.O.F. will have their State meeting the same week, and we get the benefit of their rates, going Monday and Tuesday and returning as late as Saturday. Round trip tickets must be obtained at starting point in order to get the benefit of the rates. A good program is expected. Those who wish the full benefit of the meeting will have to be in attendance.

JAS. A. STONE, Sec.
R. R. No. 4, Springfield, Ill.

Colorado.—The Colorado State Bee-Keepers' Convention will be held Nov. 21, 22, and 23, 1900, in Denver. The horticulturists meet at the same time and place. F. RAUCHFUSS, Sec.
Box 378, Denver, Colo.

Dishorning Cattle.—Dairymen and breeders who are competent to speak on the subject are unanimous in their approval of the practice of dishorning, both from the humane and the practical money-making point of view. A great deal depends, however, upon the manner in which the operation is performed. The accompanying illustration shows the Webster Convex Dishorner as used in conjunction with the Bucker Stock-Holder. The Convex is one of the simplest, and at the same time most powerful, dishorners made, having a double action, and making a smooth, clean, quick cut, with the least possible pain to the animal. One special advantage is the fact that it is open on one side, so that it hooks onto the horn, being easily put in place and easily removed, if the animal for any reason becomes unmanageable before the cut is made. Mr. Webster, the inventor of this and other instruments used in dishorning, has had unusual success in placing it in the hands of farmers and breeders. The large sale it has had is ample testimony to its value. All western orders are filled from the Chicago store, thus effecting a saving of time and freight, but all correspondence should go to the home office. Send for the illustrated pamphlet on dishorning. Address, George Webster, Christiana, Pa., and please mention the American Bee Journal when writing.

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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Oct. 25.—Fancy white, 16c; No. 1, 14@15c; No. 2, 12@13c; amber, 10@12c; dark, including buckwheat, 9@10c. Extracted, best white, 7¾@8c; light ambers, 7@7½c; dark ambers and buckwheat, 6½@6¾c. Beeswax, 28c.

A steady market prevails with all the best grades of honey in good demand.
R. A. BURNETT & Co

KANSAS CITY, Oct. 25.—Fancy white comb, 14@15c; receipts light; amber, 13@14c; dark amber, 9@11c; slow sale. Beeswax, 24@25c; fair demand; light receipts.
W. R. CROMWELL PRODUCE CO.,
Successors to C. C. Clemons & Co.

BUFFALO, Oct. 26.—Fancy honey is just about unobtainable, and not a case noticed in market. Such would sell at probably 20c. Few lots fair to good are selling at 16@18c, and very poor 14@16c. Shortest crop we ever heard of. Wax—none coming. For extracted, Buffalo is a poor market. BATTERSON & CO.

ALBANY, N. Y., Oct. 29.—We quote fancy white, 17@18c; No. 1, 16c; mixt, 15c; buckwheat, 13@14c; amber, 13@14c. Extracted, white, 9@10c; mixt, 8@8½c; dark, 6, 6½@7c.
H. R. WRIGHT.

BOSTON, Oct. 26.—Our market on honey continues strong, with light receipts. Fancy one-pound cartons, 17c; A No. 1, 15@16c; No. 1, 15c; No. 2, 12@13c. Extracted from 7½@8½ cents, according to quality. Beeswax steady at 25@27c.
BLAKE, SCOTT & LEE,

CINCINNATI, Sept. 21.—The demand for fancy comb honey is good and finds ready sale at 16@16½c; No. 1, 15c. The demand for extracted honey at present is slow and offer same by the barrel as follows: White clover, 8½@9c; Southern, 6½@7½c; Florida, 7@8 cents, according to quality. Beeswax, 27c.

The above are MY SELLING PRICES. I do not handle any honey on commission, but pay spot cash on delivery. C. H. W. WEBER.

NEW YORK, Oct. 19.—During the past two weeks, receipts of comb honey have been quite extensive, several carloads of California and Nevada honey having arrived, and some large shipments of buckwheat, and for the present there is plenty of supply to meet the demand. We quote: Fancy white comb, 15@16c; No. 1, white, 14@14½c; fancy amber, 12½@13c; amber, 11@12c; buckwheat, 10@11c.

There are no new features in regard to extracted honey. The demand is fair at unchanged quotations. Beeswax dull at 27c.
HILDRETH & SEGELKEN.

DETROIT, Oct. 29.—Fancy white comb, 15@16c; No. 1, 13@14c; darker grades, 10½@11c. Extracted, white, 7½@8½c; amber and dark, 5½@6½c. Beeswax, 26@28c.

Market firm for comb honey, but not much call for extracted. M. H. HUNT & SON.

SAN FRANCISCO, Oct. 17.—White comb, 13@14 cents; amber, 11½@12½c; dark, 8@9c. Extracted, white, 7½@8c; light amber 6¾@7¼c; amber, 5½@6½c. Beeswax, 26@28c.

Stocks of all descriptions are light, and especially is water white scarce, the latter being hardly quotable. Stocks of amber comb are of fair volume for an off year. Former quotations remain in force, with market decidedly firm for all desirable stock.

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White Clover	90c	1.70	3.75	6.50
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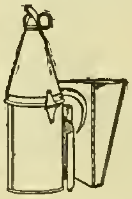

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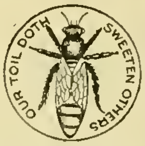
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AMERICAN BEE JOURNAL

GEORGE W. YORK,
Editor.

CHICAGO, ILL., NOVEMBER 15, 1900.

FORTIETH YEAR.
No. 46.

WEEKLY

Mr. W. S. Feeback and Apiary, of Nicholas Co., Ky.
[See page 724.]

THE AMERICAN BEE JOURNAL.

PUBLISHT WEEKLY BY
GEORGE W. YORK & Co.
118 Michigan St., Chicago, Ill.

Entered at the Post-Office at Chicago as Second-Class Mail-Matter.

IMPORTANT NOTICES:

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BEE JOURNAL

40th YEAR. CHICAGO, ILL., NOVEMBER 15, 1900. No. 46.

Editorial.

Where the Honey was Produced.—Editor Root says in Gleanings in Bee-Culture that "the great bulk of the honey this year was produced in Colorado and Michigan. A considerable amount was produced in Texas and in some parts of Florida." So far as we are able to learn it seems that the crop is already pretty well cleaned up thruout the country. It is a good thing to have a bare market for the new crop, as prices can then be maintained more easily.

◆

The Pan-American Honey-Exhibit.—As probably most of our readers know, there is to be held a Pan-American Exposition next year, at Buffalo, N. Y. Judging from the way its managers, and those interested, are taking hold, it will compare very favorably with the World's Fair held in Chicago in 1893.

Mr. O. L. Hershiser has been appointed superintendent of the apiarian exhibit to be made by the State of New York at the Pan-American. It will be to the interest of all bee-keepers living in that State, who have been so fortunate as to secure any honey the past season suitable for exhibit at the Pan-American, to correspond with Mr. Hershiser in order to get the full particulars, so that those who furnish honey will obtain the award their products merit, without expense or loss of any kind to them. Mr. Hershiser's Buffalo address is 1106 D. S. Morgan Bldg.

Mr. Hershiser intends the New York exhibit to be just as fine as he and the bee-keepers of that State can make it. This will not be alone for New York's glory, but for the benefit of apiculture generally.

It is hoped that other States will also make fine apiarian exhibits at the Pan-American, as such displays promote the interests of bee-keepers by increasing the uses and consumption of honey generally, and especially its use as a table food.

We hope that other States will take up the matter so that the industry of bee-keeping will be represented to the extent which its importance merits.

It is just possible that the next meeting of the National Bee-Keepers' Association will be held in Buffalo during the time of the Exposition. This will be practically certain provided the Grand Army does not hold its meeting next year; this latter, we believe, being contingent upon the railroad companies making satisfactory rates to Denver. We have heard it hinted that if such rates were not allowed there would be no meeting next year of the G. A. R. Personally, we prefer Denver for holding the National convention, as it never has been held so far west as that point, and it is no more than fair that the Pacific Coast bee-keepers, at least once in a lifetime, should have the convention held as near as 1,000 miles. It has often been held in the East, and only recently at Buffalo; but, of course, if our National convention can not accompany the G. A. R., the next best thing is to meet where there is a great exposition, which has as a part of it a large apiarian exhibit.

In all probability it will not be possible to secure as low a rate to Buffalo as the Grand Army usually succeeds in getting for its annual encampments. It is likely, however, that if the G. A. R. does not meet next year, a fairly favorable rate will be secured for the National convention some time during August or September for Buffalo. In the meantime, bee-keepers can only wait until something definite is known as to what the Grand Army will do about its meeting next year.

◆

The Case of Utter vs. Utter, in New York State, is thus referred to in Gleanings in Bee-Culture for Nov. 1st:

> General Manager Secor is still at work on the case of Utter vs. Utter. The attorneys in the case are Messrs. Baker & Merritt, of Goshen, N. Y., who have been retained to defend the bee-keeper Utter.
>
> In this connection I am pleased to state that the Rural New-Yorker, one of the very best, cleanest, and most reliable agricultural papers publisht in the world, is greatly interested in this case. I have seen a personal letter from the editor of that journal, expressing the hope that bee-keepers would leave no stone unturned in reversing the absurd decision of the justice of the peace before whom the case was originally tried.
>
> I have also been informed that some evidence, very valuable to the bee-keepers, was suppress by the aforesaid justice. He made much of the testimony of a certain *bee-keeper* who averred that bees could *bore holes thru boards*, and would therefore puncture fruit! The fruit-grower, Mr. Utter, testified, as I understand, that the bees *stung his trees* and killed them; that they ate up his fruit, etc. Such rank nonsense should be corrected, and I believe it will be by the higher court, where we shall get full justice.

Our readers will remember that this is the case of a peach-grower against a bee-keeper, which we mentioned nearly two months ago. Mr. Secor had written us also that he was taking care of the case in the interest of the members of the National Bee-Keepers' Association. All will be interested in the outcome, which can hardly be otherwise than in favor of the bee-keeper.

◆

Getting Bees to Make Wax.—While on this side of the globe we are urging the use of foundation so as to save bees the labor and expense of manufacturing wax, in Australia there is considerable talk about the best means to get bees to make as much wax as possible. The constant demand for beeswax there, and the low price of honey (sometimes only 3 cents a pound) are strong factors in the case. While the same conditions do not prevail here, still it may not be out of place to be informed in the matter. The September number of the Australasian Bee-Keeper is mainly taken up with the subject. Loyalstone's plan for securing a large quantity of wax is as follows:

> Instead of using wire in frames I use a small $\frac{1}{4}$ inch square stick, nailed diagonally, across the middle of the frame. To the top-bar I attach a $\frac{1}{2}$-inch starter of foundation, nothing to the middle bar, and find the bees build well in these frames, thoroly covering the middle bar, which makes the frame very staunch. At extracting-time, after extracting from these frames, I have a large tub alongside me. I cut the lower half of the comb away lengthwise from the top-bar and the middle bar; and at the end of a big day's extracting I have a fair tub full of comb to melt down. I have taken 11 pounds of wax from one colony in a good season by this system, tho the average runs from 5 to 8 pounds per season. The main thing is to give the bees plenty of clustering-room, and my style of hive suits this. You will always find your best honey-gatherers produce the most wax. You also want a prolific breeder, as the more young bees you have the more wax.
>
> At the swarming period is the time to give the bees plenty of comb to build. Take the honey from them ripe or unripe (unripe honey you can ripen in your honey-tanks), always remove the sealed brood from the brood-chamber, giving empty frames, or frames newly extracted, with half the comb cut away, in their place. During the swarming-period you should overhaul the hives every five days, and take away all fresh comb, giving empty in its place, as this is the time you will get the most wax; and if you do not attend to them properly during this period, it is useless for you to try to run your apiary for wax-production.

Editor Pender says on this same subject:

> Alternate a few frames with starters only in every super replaced on the hives during a honey-flow, and cut out these combs after extracting, except about one-quarter of an inch along the top-bar, which is to be left to form a starter, when the frame is replaced in the super. By so doing beautiful wax will be secured from new combs.
>
> Another way, and the one I have adopted, tho it could be combined with the former to greater advantage, and that is, use thick combs in the supers, and shave down the combs to a reasonable depth when uncapping. This method puts rather more honey thru the uncapping-can than is desirable, but with large cans for the cappings no disadvantage is felt. All my extracting-supers have fixt-distance closed-end standing frames, and these are spaced $1\frac{5}{8}$ from center to center, the top and bottom bars are each an inch wide and 5-16 thick. When uncapping, the comb is sliced down to the edge of the frame, thus giving me a slice off the side-walls of $\frac{3}{8}$ inch from each frame (allowing $\frac{1}{4}$-inch space be-

tween built combs). Mr. Munday complains that his bees refuse to extend the cells when shaved back. I think the reason is his extracting and brood combs are identical. If he were to use separate extracting-combs, and workt his super-combs for deep cells, but little brood will get into his extracting-combs to make the combs "old," and he would always have soft wax-cells, not tough cocoons, for the bees to extend.

◆

Carbolic Acid for Spraying.—It is unwise to spray fruit-trees when in bloom, if for no other reason than that it is a waste, as at that time it does no good, and it is believed that the poison is a damage to the blossoms. Even if there be no spraying until after the blossoms have fallen, it is thought by some that damage may be done to the bees that may lick up the moisture that is on the foliage. As bees refuse to touch sugar syrup that is very slightly flavored with carbolic acid, J. S. Callbreath recommends in Gleanings in Bee-Culture that when spraying fruit-trees it will be well to mix carbolic acid with the liquid used.

◆

Tongues and Tubes are acquiring a good deal of prominence nowadays—that is, the tongues of bees and the tubes of red clover blossoms. The editor of Gleanings in Bee-Culture is becoming quite enthusiastic over the matter, especially over the prospect of obtaining bees with tongues long enough to work on red clover as it now exists. He gives the following figures:

> The approximate length of the tongues of average bees—that is, the reach—is 16 100. The greatest length so far measured is 23-100. Red-clover corolla-tubes vary in length all the way from $\frac{1}{8}$ to $\frac{3}{8}$; and an average of them is about $\frac{1}{4}$ of an inch, or 25-100, deep. The bees of red-clover queens have tongues anywhere from 18-100 to 23-100 long; and we are now striving to get a strain that will have 25 100 length.

◆

The Illinois and Colorado State bee-keepers' conventions will be held next week—the Illinois at Springfield, Tuesday and Wednesday, Nov. 20 and 21; and the Colorado, Wednesday, Thursday, and Friday, at Denver. We expect to be present at the Illinois meeting, and hope to see many of the old as well as new friends there. We trust that both conventions may be well attended, and be profitable and pleasant to all who can be present.

◆

Carniolan Queens having been placed at the head of the list as to prolificness by Mr. Greiner, Mr. Doolittle says in the American Bee-Keeper:

> They may be the most prolific queens of the races named; but all of my experience with them goes to prove that their prolificness is so used that it counts for less in section honey than any other race of bees with which I am acquainted, unless it be the Syrians. The trouble lies in the fact that the queen does not reach nearly to her height of egg-laying powers till the honey-harvest commences, after which she will spread herself in a most magnificent style. This brings an excessive swarming during the middle or near the close of the honey-harvest, causing nearly all the honey gathered by the few bees on hand at the beginning of the harvest to be used in the rearing of brood, the bees from which are of little value, as the most of them help with the excessive swarming, or become consumers after the honey-harvest is past.
>
> All bee-keepers should understand that prolificness in any queen counts for little or nothing unless this prolificness is used at the right time to produce hosts of bees just in the right time for the harvest. And it is because the prolificness of Italian queens can be so used to a better advantage than can the prolificness of any other race or variety that I am wedded to the Italians, and not for their white capping of honey, as the reader of Mr Greiner's article would be led to think. If I have ever said that my "strain of Italian bees will cap their honey as white as the blacks," I must have been dreaming, for the whiteness is in favor of the blacks. But my Italians *do* cap their honey white enough so that it never has to take *second* place as to *price* in the markets of Boston, New York or Philadelphia.

◆

Cessation of Brood-Rearing in the fall, according to an item in Gleanings in Bee-Culture, is not always, possibly not often, caused by a cessation of the queen's laying. It is common to find in a hive in the fall eggs and sealed brood, but no unsealed brood. In such case the queen keeps on laying, but the bees cease ministering to the eggs or young larvæ. More and more it is coming to be considered that a queen is not a queen, but that the workers hold the reins of government.

Weekly Budget

Mr. W. S. Feeback and Apiary are shown on the first page. Mr. F. sent usthe following with the picture:

> I had about 100 colonies when the picture was taken—very nearly all golden Italians, but a few three-banded Italians. I prefer the golden Italians to any other kind I have ever tried.
>
> This was an off year for honey. There was very little surplus honey here, and what there was is of very poor quality. White clover (which is our main source for surplus) yielded but little.

◆

Messrs. Kitselman Bros., manufacturers of wire fencing, have changed their location from Ridgeville to Muncie, Ind. The reasons for this change are that they desire to get into the gas belt, near the manufacturers of the iron, steel, bolts., etc., used in the construction of their goods, and at the same time improve their shipping facilities. Those of our readers who are customers of Kitselman Bros. will please note the change in address. This firm is usually found among our advertisers when the fencing season is at hand.

◆

Mr. S. P. Culley, a well-known bee-keeper and writer on bees, of Higginsville, Mo., was killed Nov. 1st, while on his way to Havana, Cuba, with a car-load of bees. Mr. E. T. Flanagan, of St. Clair Co., Ill., and others, have kindly sent us newspaper clippings about the terrible accident. From the notices we learn the following particulars:

> Mr. Culley was ground to pieces beneath the wheels of a freight train at Venice, Mo. When just outside of Venice he was awakened by the conductor, who informed him that the train would soon reach St. Louis. The conductor then went on top of the car for the purpose of switching the train thru the yards. He had scarcely reacht the top of the caboose before he felt the car wheels grind thru somebody. He signaled to stop the train, which was done as quickly as possible. Walking back a few feet he found the body of a man, and he recognized the remains of Mr. Culley. It is believed by the trainmen that when the conductor awakened Mr. Culley he, in a half-dozing condition, walkt to the front door of the caboose and fell off between the cars. The conductor thinks the accident could have happened in no other way.
>
> In the pockets of Mr. Culley's vest was found a letter which he had written to his wife since his departure from his home. It informed her of forebodings which he had had during the preceding night, and hoped that she would be doubly guarded about the family during his absence. He said he had a feeling that some misfortune would befall him or his family. The letter contained many endearing terms ascribed to the wife and family, and wound up by hoping again that she would be very careful for her own safety.
>
> Mr. Culley was a recognized authority on bees in the section in which he lived, and his reputation had spread to different parts of the world. Recently he entered into a contract with a firm in the East to take a car-load of bees to Havana, Cuba, and there attempt to cultivate the industry. He was offered a liberal sum to accompany the consignment, and started on his long journey. He leaves a widow and three children.

This is all very sad indeed. How strange are some of the occurrences in life, and how uncertain is life itself.

Mr. Flanagan was engaged by the railroad company to take the car-load of bees on to New Orleans. As Mr. F. is an experienced shipper of bees, doubtless they were delivered all right.

◆

Editor Hutchinson, of the Bee-Keepers' Review, seems to be so unfortunate as to have an annual attack of "rheumatics." This year, with other afflictions, it has interfered with getting out the October issue of his paper, which was just about a month late. Here is his explanation:

> Soon after my return from the Chicago convention I was taken down with my annual, autumnal attack of rheumatic fever. Most of the time I was able to sit up, but there were a great many days when I was not able to even answer the mail. Before I was really able to do much work, came the moving from the old house into the new. This was quite a task, as there were the household goods, the office, and the bee-hives, sections, and other bee-keeping supplies to move. We were right in the midst of this work, when there came a telegram announcing the death of my father, who lived in Tuscola County. Altho scarcely able to take the journey, I went to the funeral and returned with apparently no bad effects. At present I am writing with a great variety of things piled up around me. Eventually, however, things will get into their proper places, and the long, hard task of building a house and getting settled in it will be over, and we can all put our shoulders once more to the wheel that runs the Review, and get it out on time.

◆

A Recorder Above.—Politics has no place in this journal, but an item by Stenog, in a rival bee-paper, may be excused for finding a place here on account of the kindly spirit in which it is written, and on account of its closing sentence. Stenog says:

> The editor of the American Bee Journal, Mr. G. W. York, has been nominated on the Prohibition ticket as Recorder of Deeds of Cook County. In view of the fact that in the neighboring city of Cleveland nearly all, if not all, of the city council are in criminal court for bribery, it seems a pity that such men as Mr. York—men of ability and uncompromising honesty—can not have control of public affairs instead of such men as the slum vote gives us—men who care nothing for office except as a means of plunder. But there's a "Recorder of deeds" overhead who will make this all right some day.

◆

Mr. Thos. Chantry, of Clay Co., So. Dak., writing us Nov. 7, said: "We got very little honey this year, and had to feed many colonies for winter."

Convention Proceedings.

Report of the Proceedings of the 31st Annual Convention of the National Bee-Keepers' Association, held at Chicago, Ill., Aug. 28, 29 and 30, 1900.

BY DR. A. B. MASON, SEC.

(Continued from page 694.)

PACKAGES FOR EXTRACTED HONEY.

Mr. Bishop—I did not come here to make any speech, but I will endeavor to give you my experience—it will take only a short time. The first requisite in selling extracted honey is to have the customer understand that we are presenting to him a pure article; that has more to do with it than any package. The first requisite in the disposition of extracted honey is to establish the fact to our customer that we are showing him, and seek to *sell* him, a *pure article*. That, I trust, you will all appreciate. The next thing regards the package in which it is contained. My experience has been that a wooden package is the best, largely. It came from the fact that in 60-pound cans, early in the history of extracted honey, there was adulterated honey sold for California honey, or some other far-famed product; hence, there is a prejudice, and prejudice, you know, is a very bad thing to remove from the minds of men. It is a hard matter to disarm prejudice, and they don't forget the fault readily; hence, there is a prejudice in my experience against tin packages holding 60 pounds. However, we have had some of the finest honey in those cans of any honey that was ever brought into market; yet I believe a five-gallon, and ten-gallon, and even 100-pound, or 150 to 200, or 300-pound, package of wood, properly made so it will not leak, is a very desirable package. It is easily handled—you can roll it along the floor, trundle it on your truck, and there is no danger of injuring the package; you can open it if you desire by pulling the bung, and exhibit what it contains. The case which holds cans usually has two; it is heavy, and it is a bigger package. It is not so easily handled; you can't roll it; you have to truck it; if it falls over there is danger of bursting the tin; after a while the tin becomes rusty if the can is kept long enough, or perhaps will spring a leak, and sometimes they break of themselves and the honey runs away. I believe there is more loss in the can than in the wood package. I would recommend wood packages, either kegs or quarter barrels, half barrels and casks, for honey. In handling amber honey, which is sold largely to manufacturers, barrels are very good, and the quantity does not cut so much of a figure with them as it does with the retail trade; if we sell to the retail grocer, or those who want small quantities of honey, they usually like to buy 50, 100, 150, or 200 pounds at a time. I think I can't throw any great light on this matter. This is my experience from handling honey in this manner.

Mr. Burnett—There is a fellow over there who said, "About all that Burnett cares for is to get the honey, provided it is in a package that does not give him any trouble," and I guess that is about so. The question is one that we have thrasht over considerably, and I have noticed in a few years, according to my friend, Dr. Mason, that I have been abandoned, and getting behind the light-house; that it has been a live question in quite a number of gatherings of bee-keepers, and it is certainly an important thing that you get your goods in packages that will take them to the market safely, and where they will not meet with objections that will discount the price. I think that localities have something to do with the kind of package to use. I think that for lower California, the mountainous regions where the honey does not granulate so, some of it not perhaps in years, and the nature of the country, where a package that a man can lift, is desirable, and where the hoops won't get loose because of a long, long dry time, then the 5-gallon or 60-pound tin can, two in a case, is perhaps the most practical one for that purpose that I know of. There are other sections of the country where the honey will granulate in anywhere from 10 to 90 days after its extraction. In some sections of the country they can manufacture their own packages, and manufacture a most excellent package out of wood. I have known of losses after the goods came into my hands, because the honey was not properly ripened, or in a condition to send to market when the producer sent it. During hot weather it fermented, and the end would blow out of a barrel, for something has to give way; but that holds equally true with the tin can. If the honey isn't ripe when you put it in the tin can, the tin can won't hold it. It will burst the can and burst the case around the can. It will get out under the right conditions. Now, I am of the opinion that hard and fast lines in any cause are not desirable. I do not think that every man, even if he is a member of the same organization or fraternity, ought to wear exactly the same shaped hat or coat, but that there is a necessity for a variety of packages. Furthermore, a barrel, or a wooden package, has been for many years used to market honey in, and people are accustomed to getting it in that shape. I know a great many who argue wholly for the tin can, and say it is a more convenient package. You can take a tin can and put it on a steam heater, or anything of that kind, after it has become candied, and so bring the honey to a liquified state, and it gives you very little bother; and that it is a more convenient package for retail purposes, and that sort of thing. I quite agree with them, and for that purpose, and for that trade, a tin can is necessary; but you may not all know it, and I don't know that I know it myself, but one-half, certainly, in my opinion, of the honey that is produced in the United States is bought by parties who buy large quantities at a time, and are in a position to handle it in large packages. They have the facilities for getting the honey all out of a barrel just as clean as they will out of a tin can, in Wisconsin in particular; and I think that the bias that Mr. Bishop has for the wooden package is that based on his experience largely with the honey produced in Wisconsin. I don't know that anywhere in the country there is a package made that is equal to a package that a member of this convention uses—Mr. Pickard. He tells me it is made of basswood for staves, and oak for heads, and oak hoops; they are preferable to iron hoops; that is my experience. I think that he has told me that he has never yet lost any honey—not a pound—in that kind of package. Now, Mr. Pickard might have lost it in this way: Those who got his honey weighed the barrel after the honey had been in it for a while. I think the package will "drink" anywhere from three to five pounds of honey, and it will keep that weight, so that the gross weight won't have lost anything. If it is kept in a damp place, the gross weight will have gained, there will have been a certain amount of moisture that goes from the outside into these barrels, but I haven't had any trouble with them of any kind, aside from that which I have already stated, of finding it, or rather having had them filled with unripe honey; but we have had cans burst that were new cans in new cases, because the honey expanded in the cans. I think it is well to use the package that you are accustomed to using, providing you find by your experience you do not have to sell it at a discount. Cans in Wisconsin, I think, would cost in the neighborhood of about a cent a pound for the honey they contain; how much does your package cost you a pound, Mr. Pickard?

Mr. Pickard—One holding 350 pounds costs 90 cents.

Mr. Hatch—It cost us $\frac{3}{4}$ cent per pound.

Mr. Burnett—Wouldn't it at that rate cost you over $\frac{1}{3}$ of a cent? If you save $\frac{2}{3}$ of a cent a pound on a package that will sell equally well as another, it is certainly to your interest to use that kind of package; but I do deplore the idea of advising people promiscuously to use a 50-pound can, or a 75-pound can, or 100, or any dimension whatsoever under 1,000, if they haven't the conditions that surround those people in Wisconsin. For instance, in the South they use cypress barrels, and we have a good deal of trouble with those, and I have found generally that it has been because the honey was not thoroly ripened before being put into packages; but they are a wonderfully good package for what they use them, and most people of that country are familiar with them. The honey will bring as much in that 50-gallon cypress package as it will in tin cans. Of course, in talking in this way I can't meet everybody's special experience with their packages, but if they will ask questions I am sure Mr. Bishop will be able to answer them intelligently, and if he can't, why, I don't know that I can.

Pres. Root—I think there is another commission man present who buys honey outright—Mr. Weber. If he will come forward we will be glad to have his opinion on the question of barrels, kegs, and tin cans.

C. H. W. Weber—I have found, if you want white clover honey sold for table use, it is best to put it into tin cans, while for manufacturing purposes a barrel is cheaper, and every bit as good, and sells as well. Barrels don't come as high as tin cans, and in some manner are preferable.

Dr. Mason—Why do you prefer tin cans?

Mr. Weber—I buy it any way it comes.

Dr. Mason—Which do you prefer?

Mr. Weber—It wouldn't make any difference to me at all, if it comes in cans or barrels; I take it any way at all. We are prepared to take it out of barrels and sell it in that way, and put it up in glass jars.

Pres. Root—Do you pay any more for it in tin cans?

Mr. Weber—We try to buy in barrels on that account; we want to buy it as cheap as possible.

Mr. Hatch—You like to put it in cans yourself?

Mr. Weber—We don't put it in cans, but in small glass jars, so as to bring a little bit more, if we have to pack it over.

Dr. Mason—Do you sell on commission?

Mr. Weber—No, I buy outright.

A Member—I would like to ask the gentleman if he handles any honey from New York State put in 210-pound white poplar kegs; all kinds of honey.

Mr. Weber—We do not get any light-colored honey from New York. We used to get some buckwheat honey from there, and can use that in barrels just as well as not.

A Member—We almost all use 210-pound kegs.

Mr. Weber—Small packages are more easily handled than big ones.

A Member—Our barrels are made of white poplar, and come from Maine. We have very little trouble with their leaking.

Mr. Weber—Last year we had a shipment from Mississippi—a lot of barrels that were old molasses barrels; the head was out of one, and not a drop of honey left in. We were lucky enough to secure pay for the honey from the railroad company. I would not advise molasses barrels, in general they are very poor; cedar barrels are better.

Mr. Aikin—We did not hear all these gentlemen were talking about, do the best we could. We couldn't get the gist of their talk, and I fear we are stealing some of Mr. York's thunder. We will have to be a little bit careful what we do and say just now until his paper comes; but I would like to ask some questions still further, and get the opinion of these commission men. I would like to ask this question and get an answer from each of them: What portion of the extracted honey passing thru your hands goes to the manufacturer, and what portion for table use? It has a direct bearing on this question of packages—what we are to put our honey in. I don't wish just now to discuss that matter thoroly. I am loaded down heavy on that subject, but I am not going to steal Mr. York's thunder, but try to lay the foundation for something that is to come hereafter. May we have the answer to that question?

Mr. Burnett—As I am likely to be here at some of the other meetings, and my colleague may not be, I would like to have Mr. Bishop answer.

Mr. Bishop—I was trying to think what kind of an answer I would give to that question, and I believe that during the past two or three years the largest proportion of my sales have been to consumers, from the fact that there has been a sort of an organized effort on the part of manufacturers to secure their supplies direct from certain buyers in the country who have bought and re-sold it to them.

Mr. Weber—My last year's experience was that about ¾ of the honey which I handled was used by manufacturers, and the balance went into the retail trade. It is awfully hard, these days, to make people believe that honey is pure; they have an idea all the time that it is adulterated; we have to overcome that. For my own part I am going to have signs made, and warrant the honey with a certain sum of money to show them that it is all right. I don't see how we can do it any other way, because they have doubts all the time.

Mr. Aikin—Lest a wrong impression get out, I want to say that my question was intended in no way to reflect upon these gentlemen as dealers in honey, but to get at the real truth of the matter, where our extracted honey goes to, what use it is put to, because, as I said, that has a direct bearing upon the question of how we shall pack it, and without entering into a full discussion of that, I want, as I said, to lay the foundation to get the people to thinking; when Mr. York gets thru we can enlarge still further upon the subject. I hope before the close of the convention to touch these matters indirectly myself, and of course we don't want you to steal all our thunder before we come on the floor with our papers.

Pres. Root—I would explain here that Mr. Weber is located in Cincinnati. A great deal of his honey is Southern honey, and dark—that has to go for manufacturers' purposes, that means for bakers' use, principally. The National Biscuit Co. use a great deal of dark Southern honey, and that accounts for his percentage being so different from the percentage of Mr. Bishop, who has white honey.

D. H. Coggshall—I would like to make a statement. I was in one of the National Biscuit Company's plants a year or so ago. I went up overhead where they were melting honey, and askt them with regard to putting it into cans or barrels. They took the cans and heated the honey to get it out, but they took a knife to cut around the ends of the can, and took out the bottom of the can, so the can was thrown away; and in a barrel where the honey was candied they knockt the hoops off, cut the honey in chunks and melted it. Where a man uses a keg or barrel, the storage costs only about ¼ cent a pound; where we use cans it costs ¾ of a cent a pound; we sell just as readily with barrels, or 210-pound kegs, and it is a great labor-saving way. A barrel you can throw down, or roll, or pick up and carry it.

Mr. Aikin—There are three States west of the Mississippi and Missouri rivers that cover a great deal of territory. I would like to ask some of the Eastern people what they are going to do with us when we have to buy their barrels to ship our honey, and ship it back to them and pay $2.25 a hundred for first-class freight from Denver to Chicago, and 90 cents for fourth-class, which is the class honey goes in. Are we to go to New York or Wisconsin to buy our barrels to put our honey in? There are two or three sides to this question.

Dr. Mason—Go there, if you want to.

Pres. Root—In going thru the country I noticed that the kegs and barrels, especially when I visited Coggshall brothers, are used almost exclusively. In the Western States I see the tin cans are used almost exclusively. In the first place, they can't get the barrels; in the second place, kegs and barrels would not do in that dry climate. I remember looking in Mr. Aikin's apiary, near Denver, and seeing how the barrels had warpt and twisted. Anything in the nature of wood held together by hoops could not be used there. Mr. C. A. Hatch has had the same experience.

F. P. White—They get some honey that isn't ripe. What do they do with unripe honey? Do they sell it to put on the table to eat, or to manufacturers for manufacturing purposes?

Mr. Bishop—I am going to tell you a story about extracted honey; it is a living joke on me in our part of the country. I bought 5,000 pounds of honey, and as it came in I listened to it, and there was a good deal of humming about it—no bees in it, but there was a music, and I rapt out one of the bungs to see what might be in there, and up it came, and you know I just caught it in my beard, and I was a sweet looking individual for a few minutes, I assure you. That was the first time. The next year the same party came to me and wanted me to buy his honey, and I heard the same sound. I knew what was there. I was working to get him around to look at the keg, hoping he might get the same thing I got the year before, and *I* got it again. Well, he told the story all about, and he said, "The strange part of it is, Bishop didn't swear." You know that wouldn't be very nice for a bishop to do [laughter], and I don't think it is either gentlemanly, polite or wise for any man. So much for the moral side. When we get honey of that kind it is a very hard thing to manage, I tell you. You realize that from what I have told you. We put such honey in a cool place, and keep it until cold weather, and sell it the best we can, but we can not always sell it at the highest point. because it has not the quality in it. Sometimes it is almost as good, but it gets into a store, and, before we know, they come back and say, "That honey you gave us isn't right; there is something the matter with it." So I advise you as apiarists to be sure your honey is ripened before you send it to market.

A Member—Mr. Weber, what do you do with thin honey?

Mr. Weber—I do not have any thin honey—don't get any; but if there should be some shipt in such a condition I would not buy it. I expect only good honey, and will buy only good honey.

Mr. White—I produce extracted honey, and my object in finding out what these commission men do with that unripe honey is simply this: If they will sell that to their customers for use on the table as food, it is certainly helping the comb-honey trade, because if people get hold of that kind of honey, they want comb honey, and I don't blame them. I would like to see people put good extracted honey on the market. If it is white honey it is just as good as comb honey, only it is out of the comb. Let us help the extracted-honey trade as well as the comb-honey trade, and we can do this by putting a good article, and nothing but a good article, on the market.

Mr. Bishop—People will eat extracted honey if they know enough to know when they do get a good article. There is an objection to eating comb because some people feel that wax is not a digestible article, that it is an injurious, indigestible article; but extracted honey is used by many people in the place of butter. It is spread on bread, is good for many uses, and taken among the German people they think as much of good extracted honey as they do of the very best food they have; they believe it is useful for children; they think it cures the croup, and they think it is good for all the family from the least to the greatest.

Mr. Moore—There is no question but what this extracted-honey question is a burning question. From an experience of upwards of 15 years in family trade, I would say I have no doubt but what 95 percent of the honey consumed in this country is extracted honey, and the question of putting it on the market ripened, is this: If they ever get any unripe honey they will never buy any more of you if you sold it to them, or never buy any more of me if I sold it to them. Is it practical to "doctor" up thin honey? We read in the journals of the practice in California of exposing honey in large tanks to the air. Another way is by putting it in a water bath and bringing it up to about 150 degrees, and throwing out the germs of fermentation. I would like to hear from any one who has had experience in artificial ripening of thin honey.

Mr. Hatch—The honey in California, as a rule, does not need any ripening. It is very sweet and nice when it is extracted, that is, if proper precautions are taken by letting at least one-third of the comb become sealed before it is taken out. It is then put in immense tanks that will hold from four to as high as eight tons. The apiaries I workt in had two tanks holding eight tons each. They made a cone-shaped strip up from each side of the man-hole about 18 inches across; after the tank is full, it is covered with a cap something like a tight paper cover. It stands at a proper angle to get all the heat of the sun—it gets very hot; if there be any thin honey the thin part of the honey will rise to the top, where it gets the most heat. You must remember that when one of these tanks is full—five feet deep of honey—it takes a great deal of heat to get to the bottom. This layer of thin honey, if there be one, is right at the top, and exposed to the hottest rays, and all evaporates and becomes thick and nice; you don't often see any thin honey come from California or Arizona. In Arizona they have a different method—they tie cheese-cloth over the top of the tank. They also store it in the tanks holding about 1,000 to 1,500 pounds; they tie a large cheese-cloth over the top, which catches all the insects, and let it stand for at least a week, as a rule, and then skim, and put it into cans.

Mr. Kretchmer—I find California isn't the only State using evaporating-tanks for honey. We have made scores of tanks for people this side of the Rocky Mountains two feet deep and eight feet across; the top is covered with cheese-cloth, and it is exposed to the sun to evaporate the moisture out of the honey.

Mr. Burnett—As to honey being ripened before it is put on the market is the most serious question in the whole extracted-honey business; you don't know, to save two pounds of honey, how much you injure the consumption of honey by putting on the market unripe honey; there isn't anything that has limited my sales to the extent of unripe extracted honey.

Mr. France—I would like to ask Mr. Hatch if he has observed, in their artificial ripening, any effect on the flavor of the honey. Is it retained as it is where the bees have ripened it? I have noticed that honey ripened artificially in Wisconsin does not have the same flavor as that ripened in the hive.

Mr. Hatch—You will have to take this second-hand, for I was a stranger in that country, only one year in each place—one in Arizona and one in California—and I made inquiry of the bee-keepers there as to the flavor of the sun-evaporated honey. They found if the honey was left in the hive until one-third of the comb was sealed over, and then put into these tanks, and let it remain a week, the flavor was still perfect and all right; but I would like to emphasize what Mr. Burnett has said, that the greatest enemy to extracted honey is poor, thin stuff; let it get ripe, and then you have something that the adulterators can not imitate.

Mr. Moore—Here is one point that I want to bring out. I am satisfied that this ripening in tanks will only work in he West where they have red-hot air; here in the East, where any metals will be covered with rust, I don't believe there is any way of ripening our honey, but to leave it in the hive long enough.

H. W. Funk—I was just going to say what Mr. Moore has said. Our air here is not dry enough. I had a couple hundred pounds of unripe honey last winter. I placed it on top of the furnace in the basement. After being exposed two weeks it did very nicely. I think honey, if exposed to the air longer, will deteriorate in flavor. I think it advisable for us to try some method by which we could thicken our honey by artificial heat; when frost comes it will get thinner instead of thicker, no matter how long you leave it in the hives.

Dr. Mason—We hear considerable about this matter in bee-papers, saying it is advisable to keep honey closed up tight, so it will keep its aroma. Last week I wanted to prepare some things to bring here to exhibit. I went to work opening honey I had bottled up nine years ago; there was nice flavor and nice aroma when I bottled it, but it did not retain its aroma, altho it was kept sealed as tight as beeswax and corks could seal it. I have other honey that has stood in open cans for the past three years, and it is nice yet. There is a difference in localities, we know that.

Mr. Green—Some have feared that evaporation by hot air would injure the flavor of honey. I keep my honey in a very warm room, heat it up to 100 degrees, or thereabouts; I save the honey which drips from the bottom comb, and when it is exposed to this hot, dry air, 100 degrees or more, sometimes it is improved in flavor. When it gets so thick that you can not pour it or make it drop from a knife, it is the finest honey I ever tasted.

At this point the convention adjourned to have pictures taken, and to meet again at 7:30 p.m.

(Continued next week.)

Contributed Articles.

Wintering Bees, Upward Ventilation, Etc.

BY F. GREINER.

It would be difficult to bring out anything new in an article on wintering bees. I don't attempt it. However, I have learned that cast-iron rules can not be laid down any more for wintering than for the production of honey. The climate, the location, and many other factors, play an important part, and will have to be taken into consideration. In this latitude and elevation a good cellar insures fair results, but outdoor wintering gives, on the whole, less trouble in several ways, and stronger colonies early.

In a very dry climate perhaps upward ventilation is not essential, but here, with the amount of snow, rain and fog, etc., I consider it very desirable—yes, most important. In a damp cellar upward ventilation will prove a benefit to the bees and combs.

A colony wintering well will show but very few dead bees on the bottom-board at any time, whether wintered indoors or on the summer stands. If the vitality of a colony is at a low state, and the mortality is greater than it should be, dead bees will accumulate under the frames, and, when damp, become moldy, and sometimes a by no means odorless, but a rather disagreeable, mess. A deep, empty space below the frames, and upward ventilation thru a warm quilt or some packing, will be beneficial. For cellar wintering this space below the frames should never be omitted. To provide such I prefer to slip a low rim between the body of the hive and the floor-board. My method is this:

About a week or two before it is time to take the bees to the cellar I go to hive No. 1 with a clean bottom-board, with rim attacht, and exchange it for the bottom on that hive. I clean the latter from all little lumps, etc., and fasten a rim to it. I then go to hive No. 2. and proceed in a like manner till all hives are thus gone over.

In the spring, after all colonies are returned to their places in the yard, I follow a similar system in removing the rims. This gives us clean bottom-boards in the fall and also in the spring. Reversible bottom-boards accomplish the same object, but we don't all have them.

Very few bee-keepers make it a practice to reduce the number of combs in their colonies to so small a number that all combs are protected or covered during the colder part of the year. This being the case, we find the conditions of our colonies on the summer stands at times like this:

"Bees clustered near one side of the hive and occupying about five spaces.

"Stragglers—anywhere from 25 to 100 bees—left in spaces not occupied, and dead.

"Later on these dead bees become moldy; also the comb near and around them." This happens even in colonies of average strength; and the more moisture there is in the hive the worse for the combs and bees. Sometimes parts of the combs become so badly affected as to make them worthless.

The best remedy would be, to reduce the combs of all colonies to that number which they are able to cover during cold winter weather. But to do this involves a great deal of labor—an article which we all wish to economize in as much as possible. Many, therefore, choose the shorter cut, and give upward ventilation thru chaff packing on top, which is a reasonably safe preventive measure against mold.

Some of the best bee-keepers in Germany provide their bees during the winter with a bottle of water. Several different patterns of water-bottles are advertised in the German bee-papers, which are said to work well. I, myself, am down on this bottle business in general. I like to see my town a "dry" town, and I want to keep my bees as "dry" as possible. It is true bees consume some water when rearing brood, and it may be beneficial to give them water inside of the hive during April and May; at other times I can see no need of it whatever. I have thought a number of times before that I would experiment along this line, but when I saw my well-protected colonies doing well, without the bottle, I let well enough alone.

Speaking about well-protected colonies, I want to say that for outdoor wintering packing is very, very necessary to insure good results in this part of the country. The winter-cases offered at the present day, and used without packing, I regard as a very poor excuse. I want three inches of packing all around, and a little more on top. It has also been my experience that the best results in wintering are obtained with a hive made of very thin stuff, and of the most porous wood, this in reference to the inner walls of said hive. Our regular single-walled hives, made of ⅞-inch lumber, are not as well adapted for packing as such made of ¼-inch lumber. Basswood lumber for the inner walls has answered the purpose the best for me.

As to the best winter food for bees—well, in practice it is not quite possible to regulate the quality of it. Not until this can be easily accomplisht may we expect perfect and uniform results. Generally we are even unable to ascertain whether the food is of a healthy character or not. We can tell honey-dew from buckwheat and other honeys, and we might remove the former, but we can not foretell with any degree of certainty whether the basswood or buckwheat honey of this year will be as safe as that of last year, etc.; and so we are at sea. Extracting all stores and feeding syrup instead would be all right, of course, but such a course is entirely out of the question with large apiaries.

It is therefore my opinion that wintering, on this account, will continue to be a sort of lottery business for some time to come. I would, and should, say, however, that poor winter stores are rather the exception than the rule, and the chances in allowing the gathered stores to remain in the hives do not involve very much risk.

Ontario Co., N. Y.

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A Criticism of Queen-Breeders and Queen-Rearing.

BY DR. C. C. MILLER.

MR. EDITOR:—I have received a letter that was sent as a private letter; but as matters of general interest are involved, the writer will perhaps raise no objections to its being answered in this public manner. The letter is as follows:

DR. C. C. MILLER,

Dear Sir:—I have reared three daughters from the first queen sent. They are all partakers of her nature—lay two or more eggs in a cell—and very poor layers, but an improvement on their mother in some respects, tho none of them are fit for any use. I reared them to demonstrate the transmitting potency of the stock. If she could transmit good qualities like she does bad ones, it would be desirable, but you know that the laws of transmission are such that the good must be very strong and well-fixt if it can lead. The other queen will have to do better another year if she will do to keep; she is not yet as good as the one I killed to make room for her.

I am afraid you queen-breeders have made a very bad mistake in adopting this untested queen-rearing process. About as well go to raising babies with a manikin! Some years ago the Jersey cattle-breeders raised a boom on stock, and bred and sold everything that would register, and have filled the country with a worthless stock. Not one cow in ten is fit to keep for milk, and the nine are not worth much for anything the farmer wants. The queen-breeder is following the same trend—anything that will lay is whirled thru the mail, and if she doesn't turn out right the receiver is to blame! Never the breeder! Yet, I am pleased to note that a few breeders guarantee satisfaction, and are willing to bear their share of responsibility in the matter. But I am sorry to know that many to whom we look—not only for instruction in apiculture, but in morals as well—are willing to allow themselves to get so far behind *those* who do not set themselves as moral guides. Every bee-keeper should give his influence for improving the general stock of bees. I don't think that any one who sends out queens without a guarantee to suit is doing much to improve the general stock, or cares to.

I don't say that she should be purely mated, but that she should be a well-formed queen, and a good layer. Most bee-keepers would prefer a good hybrid to a poor Italian. Any one who will study thoroly the laws of nature—physiology, biology, etc.—will readily come to the conclusion that many more poor queens than good ones are produced by the queen-stick-cell-royal-jell-egg-in-a-quill process that has been so largely adopted.

Now, Doctor, don't think that I mean you more than others; but you must allow me kindly to say that I am somewhat surprised to find that, instead of crying out against it, you are probably following it. But I believe you are too level-headed and pure-hearted a man to allow infatuation to prevent you from properly considering the matter in due time. Good men will not allow their good to be evil spoken of, any more than their charity to think evil.

Truly yours, P. M. CORYA, M. D.

Jefferson Co., Ind., Oct. 18.

Within the last two or three years I have done some battling for natural processes in queen-rearing, and have been assailed with some warmth for holding that when a queen is removed from a colony the bees will not be in such haste to rear a successor that they will select a larva too old for a good queen. I believe that in such case, the farmer who knows nothing about scientific queen-rearing, if he leaves the bees entirely to themselves, will have as good a queen as if he had used the latest kinks of the scientific breeder. But if he goes to cutting out all the cells and rearing queens from them, he will be far outstript by the scientific breeder.

Now, however, it seems I must take up the cudgel for the scientific breeder. Please do not understand that I am classing myself as a scientific queen-breeder. I am a practical honey-producer, and during the past summer have sent out a number of queens such as I would rear for myself. I tried to have it distinctly understood that not all of these would prove upon trial to be satisfactory; not all queens can be expected to turn out equally good; and there is the additional chance that a queen may not do well after having been thru the mail. My correspondent receiving a queen that is not satisfactory, assumes that the manner of rearing is at fault, calling it in one place the "queen-stick-cell-royal-jell-egg-in-a-quill process." He says, "I am afraid you queen-breeders have made a very bad mistake in adopting this untested queen-rearing process." The assumption that the process is an "untested" one is hardly warranted. Doolittle's book on queen-rearing appeared in 1889, and a method that has been before the public for 11 years—a method by which thousands upon thousands of good queens have been reared—can hardly be termed an "untested queen-rearing process."

"Any one who will study thoroly the laws of nature, etc., will readily come to the conclusion that many more poor than good queens are produced" by the method mentioned. He might reach such a conclusion, but it would be a wrong conclusion, for the facts are against him. I have tried the plans offered by such men as Doolittle, Alley, Pridgen, etc., and I have found good queens the rule, with poor ones the exception. Hundreds of others can no doubt testify to the same thing.

The statement that one who sends out queens without a guarantee to suit does not care to do much to improve the general stock, sounds rather strange. And when a hint is given that there is something immoral in the transaction, it sounds still more strange. A queen may be sent out as a tested queen, but the breeder can afford to send her for less money if he sends her out before the testing. And so it happens that an untested queen is sold for less usually than a tested one. A queen may be sent out as warranted, but the breeder can afford to send for a less price without warranting. On the whole, very much the larger part of queens sent out by breeders are untested, and the probability is that in consequence of the larger number and lower price untested queens have done more than tested queens for the improvement of stock in general. But the man who gets a queen with the distinct understanding that she is untested ought not to expect the advantages of a tested or even a warranted queen without paying for them, and if he does, the immorality lies on his side.

McHenry Co., Ill.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Foul-Broody Hives and Frames.

When foul brood gets to its worse stage can hives and frames be saved successfully by boiling? UTAH.

ANSWER.—Wm. McEvoy says, save the hives, and he's good authority. But he does not advise saving the frames.

Feeding During the Winter Months.

What do you think is the best and cheapest food to feed bees during the winter months? Or will it pay to feed small colonies that swarmed the past summer, that have very little honey now (Oct. 28)? My bees are in good hives and have expensive (?) queens—that is, the old colonies have. Bees in this section stored very little honey, so we will have to feed, and I have been askt to write for advice.

KANSAS.

ANSWER.—As combs of sealed honey seem to be out of the question in your case, the next best thing is some preparation of granulated sugar. Don't think of using any cheaper kind. It is not so good for the bees, and as the granulated is more concentrated, it is considered as cheap as coarser sugar. The very best is none too good for winter stores, altho after bees are flying in the spring they may safely be fed almost anything that is sweet. Unless there should be a very warm spell of weather, it is now rather late to feed syrup, and your safe plan will be to feed the sugar in the form of candy as directed in your text-book.

Bees Affected with Paralysis.

I have a colony of bees that seems to be badly afflicted with paralysis. The queen is one I reared myself last summer. When I lookt last there were a number of dead bees on the bottomboard, and some in the combs as well as numbers outside. With regard to feed and other circumstances, that colony is the same as the others, so I should think the cause is owing to some weakness in the queen. She was not bred from the queen whose colony was troubled with that disease in the spring, but may have been fertilized by a drone from it.

1. Would it be safe to use the combs, etc., for other colonies if, as seems likely, it dies out during the winter? Or if it does not, would it be advisable to unite it with another?

2. In directions for uniting and finding queens, I see it advised to shake off the bees on the entrance-board. Would it not injure a queen if she were to be shaken off onto a board?

3. This has been a poor season for honey, and there was little coming in after July, in consequence of which I suppose some of my colonies have not been breeding much since then. Towards the end of August I noticed several without brood of any kind, and in some I have not seen any since; in others only a small patch, and only in some that were requeened in August was their brood on 3 or 4 frames. The queens are there all right. Will those colonies be very weak in the spring? Some had honey enough and some I had to feed. If I had fed them slowly would it have been better?

4. I fed syrup two parts by measure of water to three of sugar. Will that candy, or should I have mixt tartaric acid with it? BRITISH COLUMBIA.

ANSWERS.—1. It will probably be safe to use the combs. If the bees seem very badly affected, it might be well to destroy the colony. If only weak, it may be united with another.

2. Such a tumble can certainly do her no good, but it is not at all certain that it does her any serious harm, for thousands of queens have probably been thus treated with no report of harm from it.

3. Bees seem to grow old in proportion to the amount of work they do. A bee hatcht in August which works hard till late in the season can not be expected to stand a severe winter, but if there has been no chance for work since it came into existence, it is practically a young bee and all right for winter. Continued slow feeding after the harvest stopt would have secured later bees.

4. Probably there will be no candying, altho if the feeding was done very rapidly there is a possibility of it. Tartaric acid would be a preventive, but it would be better to omit the acid and feed early equal parts of sugar and water.

Queen Slow in Laying—Oil-Cloth Covering.

1. August 4th I divided a colony, and the queenless division built 10 nice queen-cells, but as they were quite weak I gave them a frame of eggs and brood Aug. 11th; then they destroyed all the queen-cells and built some new ones, but as I never found any queen I gave them another frame of eggs Sept. 7th, and about Sept. 20th I opened the hive and found one cell was hatcht and the others were destroyed. There were plenty of drones in the hive, but the queen never started to lay. Oct. 10th I killed the queen and united the bees with another weak colony. What was the matter?

2. Are bokhara clover and sweet clover the same?

3. What kind of a cushion over the bees would you advise for outdoor wintering? Bee-keepers around here use oil-cloth. Is that preferable? MINNESOTA.

ANSWERS.—1. It is nothing strange that a queen hatcht late in September should be slow about laying, especially in a weak nucleus. Sometimes such a queen will not lay till the following spring. But a queen *started* in a nucleus late in the season is not likely to be of great value.

2. Yes.

3. The trouble with oil-cloth is that the moisture will condense on it and fall in drops on the bees. The more packing over the oil-cloth the less the danger. But it is better to have burlap or some other material that will allow the moisture to pass thru.

Glucose to Prevent Granulation, Etc.

1. Would it be all right to mix glucose with sugar syrup to prevent the sugar from crystallizing in the combs?

2. Are the Adel bees gentle?

3. Would the tulip tree do well in this part of Kansas?

L. H.

ANSWERS.—1. A few years ago glucose was given a pretty thoro trial, and it was decided that no glucose should be brought any where near bees.

2. I think they are.

3. It might, but you can only tell by actual trial.

Belgian Hare Breeding is the title of a pamphlet just publisht, containing 10 chapters on "Breeding the Belgian Hare." Price, 25 cents, postpaid. It covers the subjects of Breeding, Feeding, Houses and Hutches, Diseases, Methods of Serving for the Table, etc. It is a practical and helpful treatise for the amateur breeder. (See Mr. Schmidt's article on page 680.) For sale at the office of the American Bee Journal. For $1.10 we will send the Bee Journal for a year and the 32-page pamphlet on "Belgian Hare Breeding."

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Important Topics.

As an illustration of determination to serve bee-keepers we cite the matter that has appeared in the last year in our Columns on the new bee-disease—Black Brood—which threatened to wipe out the industry in some sections of the country, and later has been found in all parts of the United States.

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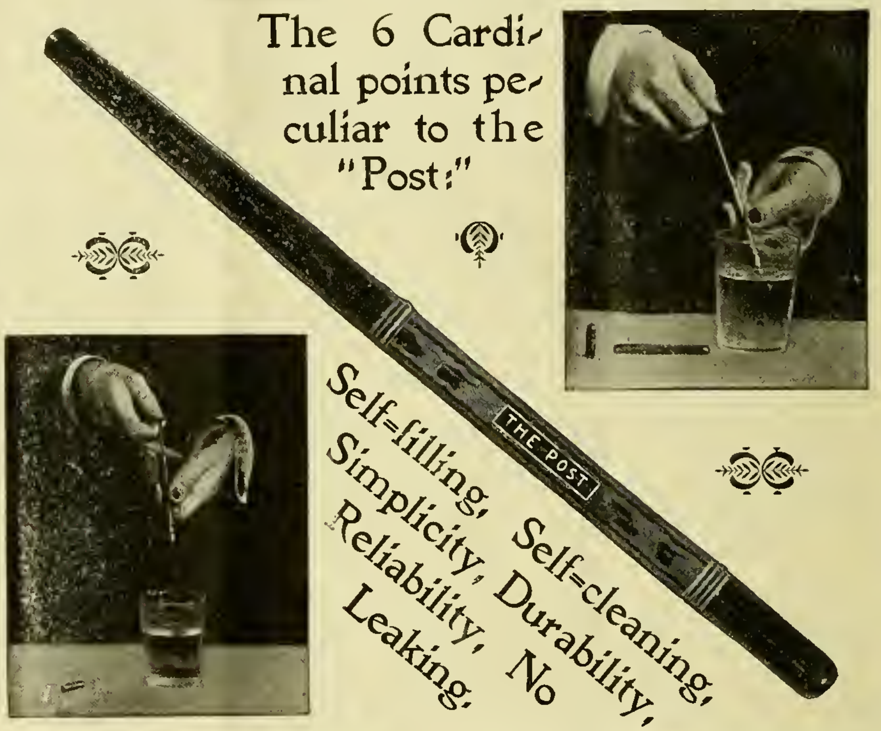
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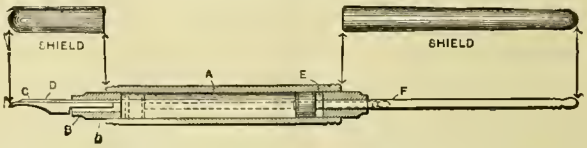

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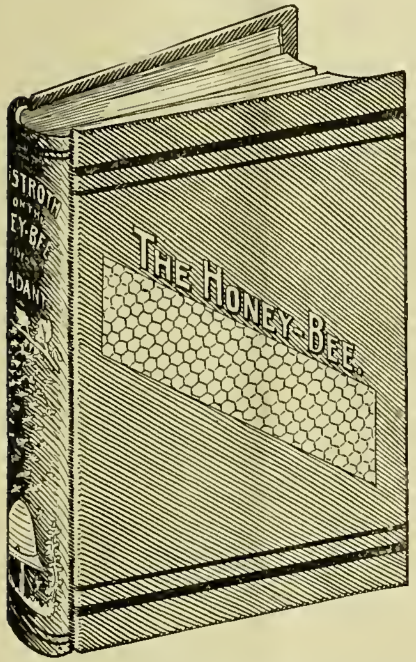
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GENERAL ITEMS

Next Year the Honey-Year.

Nov. 4th my bees were working some on red clover, and also carrying in pollen from a few other plants. This has been another poor season for us, yet my honey-bees put up from 75 to nearly 100 pounds of comb per colony. Everywhere in this locality white clover is well started, and if it holds its own it should make a big crop of honey next year. We get a good crop here about every 4 years. Next year will be our honey-year, according to time. D. J. BLOCHER.

Stephenson Co., Ill., Nov. 5.

Not Much Honey, but Well Sold.

We did not get very much honey this year. I have sold all of my No. 1 white honey for 14 cents cash, in the home market, while some of the bee-keepers here sold as low as 10 cents, so I can afford to pay up for the Bee Journal and still have some profit left. My bees are in fine shape for winter, and I am looking for a better honey-flow next year. Success to the American Bee Journal. D. A. HOLEMAN.

Warren Co., Pa., Oct. 30.

A Letter from Mrs. L. Harrison.

We commenced keeping bees by purchasing two colonies of Adam Grimm, of Wisconsin, in 1872. The first year we increast to four, but secured no surplus honey—the colonies had an abundant supply for winter stores—and were strong the following spring.

Since the second season, we have not been one day without honey. Almost every year during the first score of years that we engaged in bee-keeping, honey was so abundant that it was difficult to find a market for it; but during the last 10, there has been but a small amount of surplus stored in this locality. We've never had to feed our bees for winter, and always had a few pounds of surplus. I'm puzzled to know why this lack of nectar. The past season there was abundant bloom from white clover and melilotus, both the white and yellow varieties. The white sweet clover is covered with bloom now (Nov. 5). There has not been sufficient frost to kill tomato-vines. I've never known an autumn when bees did

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Guaranteed absolutely Pure Bees' Honey. Packt in 5-gallon tin cans, of about 60 pounds each, two cans to the case, 7½ cents per pound, cash with order. Buy direct from the home of Alfalfa. We can please you. Headquarters for ALFALFA and SWEET CLOVER SEED. Write for prices. **Vogeler-Wiedemann Co.,**
60-62 W. First So. St., SALT LAKE CITY, UTAH.
43Atf Please mention the Bee Journal.

Fully Warranted.

A QUICK, SHARP CUT hurts much less than a bruise, crush or tear. DEHORNING Done with the KEYSTONE KNIFE is the safest. Quick, sharp cut. Cuts from four sides at once. Cannot crush bruise or tear. Most humane method of dehorning known. Took highest award World's Fair. Write for free circulars before buying.
M. T. PHILLIPS, Pomeroy, Pa., (Successor to A. C. BROSIUS).
Please mention Bee Journal when writing.

BEE-SUPPLIES!
☞Root's Goods at Root's Prices☜
POUDER'S HONEY-JARS and everything used by bee-keepers. Prompt Service—low freight rate. Catalog free. WALTER S. POUDER,
512 Mass. Ave., INDIANAPOLIS, IND.
Please mention Bee Journal when writing.

IT COST US $4,000 Costs You 15c

SELF SUPPLIED MOISTURE.
SELF-REGULATING.
SELF-VENTILATING

We have spent $4,000 on our new book, "How to Make Money with Poultry and Incubators." It tells it all. Leading poultry men have written special articles for it. 192 pages, 8x11 in. Illustrated. It's as good as Cyphers Incubator—and it's the best. Out hatch any other machine. 16 page circular free. send 15 cts. in stamps for $4.000 book No. 50
Address nearest office. CYPHERS INCUBATOR CO.
Chicago, Ill. Wayland, N. Y. Boston, Mass.
Please mention Bee Journal when writing

Belgian Hare Guide AND DIRECTORY OF BREEDERS. Price 25c
Inland Poultry Journal Co., Indianapolis, Ind.

Best on Earth

What? Our **New Champion Winter-Cases.** And to introduce them thruout the United States and Canada we will sell them at a liberal discount until Oct. 15, 1900. Send for quotations. We are also headquarters for the NO-DRIP SHIPPING-CASES.
R. H. SCHMIDT & CO.
Sheboygan, Wisconsin.
Please mention Bee Journal when writing.

THE NICKEL PLATE ROAD

will sell tickets within distances of 150 miles, Nov. 28, 29, at rate of a fare and a third for the round trip, account of Thanksgiving Day. Return limit Nov. 30th.

This road has three thru trains daily to Ft. Wayne, Cleveland, Erie, Buffalo, New York and Boston, carrying vestibuled sleeping-cars and affording excellent dining-car service, individual club meals being served, ranging in price from 35 cents to $1.00. Write John Y. Calahan, General Agent, 111 Adams St., Chicago, for reservation of sleeping-car accommodations. Chicago Passenger Station, Van Buren St. and Pacific Ave., on the Elevated Loop. City Ticket Office, 111 Adams St. 39

SPECIAL NOTICE!

Last winter's cut of basswood is the whitest it has been for many seasons. We are now making sections out of this new stock and therefore are in a position to furnish you with the very finest quality in the market.

LEWIS WHITE-POLISHT SECTIONS

Are perfect in workmanship and color.

Orders shipt immediately upon receipt. A complete line of everything needed in the apiary. Five different styles of Bee-Hives.

Lewis Foundation Fastener simplest and best machine for the purpose. Price, ONE DOLLAR, without Lamp.

G. B. LEWIS CO., Watertown, Wis., U.S.A.

BRANCHES:
G. B. LEWIS Co, 19 So. Alabama St., Indianapolis, Ind.
G. B. LEWIS Co., 515 First Ave., N. E., Minneapolis, Minn

AGENCIES:
L. C. WOODMAN..........Grand Rapids, Mich.
FRED FOULGER & SONS..........Ogden, Utah.
E. T. ABBOTT, St. Joseph, Missouri.
Special Southwestern Agent.

SEND FOR CATALOG.

Please mention Bee Journal when writing

A PRACTICAL POULTRY BOOK One which covers every detail of the industry from incubation to market is our 20th CENTURY CATALOGUE. It will teach you from the practical experience of others what it would take you ten years to learn. Among other things it tells about the latest improvements in the world famous **Reliable Incubators and Brooders.** Sent for 10c to pay postage. Reliable Inc. & Brdr.Co.Box B-2 ,Quincy,Ill.

Please mention Bee Journal when writing.

26 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 26 cents a pound—CASH—for best yellow, upon its receipt, or 28 cents in trade. Impure wax not taken at any price. Address as follows, very plainly,

GEORGE W. YORK & CO., 118 Michigan St., CHICAGO.

California! If you care to know of its Fruits, Flowers, Climate or Resources, send for a sample copy of California's Favorite Paper—

The Pacific Rural Press,

The leading Horticultural and Agricultural paper of the Pacific Coast. Publisht weekly, handsomely illustrated, $2.00 per annum. Sample copy free.

PACIFIC RURAL PRESS,
330 Market Street, - SAN FRANCISCO, CAL.

Please mention Bee Journal when writing

INCUBATORS FOR THE FARM must be simple in operation, sure in results. That's the

SURE HATCH INCUBATOR.

anybody can run it, because it runs itself. Send for our free catalog and see for yourself how very successful it has been on the farm. It also describes our Common Sense Folding Brooder. We Pay the Freight.

SURE HATCH INCUBATOR CO., Clay Center, Nebraska.

Please mention Bee Journal when writing.

Have You Either an Orchard or Garden?

Have you anything to do with either Fruits or Vegetables? Then keep in touch with your work by subscribing for the

American Fruit and Vegetable Journal

Pub'lsht at 713 Masonic Temple.... CHICAGO, ILL.

Sample copy free. Mention this paper.

I have before me a copy of the American Fruit and Vegetable Journal, which I like pretty well. It fills the bill better than any paper I have seen lately. IRA C. TRACY, Foreman in the Home Nurseries.

I was much pleased to receive your publication. It is a very neatly printed and well edited journal, and merits success. D. W. BARKLEY, Editor of the "Rocky Ford Enterprise."

All departments of the Fruit and Vegetable business discust by practical and experienced persons.

FREE! We will send the above Journal absolutely FREE for one year as a premium to all old subscribers sending us $1.00 to pay their subscription one year STRICTLY IN ADVANCE. Both papers for the price of one. Send your renewal subscription to this office while this offer is open. Both papers, $1.00.

AMERICAN BEE JOURNAL, 118 Mich. St., Chicago, Ill.

Please mention the Bee Journal when writing Advertisers.

not fill the lower stories of hives with honey.

Some writers tell of the sweetness of the ground this year—how sweet the corn and beets are. We thought differently, and often spoke of it.

Any one who wants to keep the bees from swarming, can do so by moving them to this locality.

Our bees have not swarmed enough to occupy the hives from winter losses for a decade. When we were kept busy hiving swarms we had plenty of honey—and such honey! The comb was so tender and delicate as to be scarcely discernible. MRS. L. HARRISON.

Peoria Co., Ill.

"Lost Swarms."

Afterthought, in his guess on page 634, respecting the problem he refers to on page 555, is as wide of the mark as one could well be. This particular colony had been carefully watcht, as it was expected to swarm at any time, and an examination was given it just before the owner went in to dinner. The weather had been unpropitious for a day or two, and no swarm had emerged.

Now, my theory is, that the young queen had emerged from the cell some time during this unfavorable weather, but had not, for some reason, met the old queen, and that when the swarm came out, she, as well as the old queen, came out also. The old crippled queen crawled back into the hive, and the young queen went off with the swarm, which "was as easy as rolling off a log." WM. M. WHITNEY.

Kankakee Co., Ill., Nov. 1.

An Old New Subscriber.

I have been a subscriber to the American Bee Journal before, and only left off because my bees failed to pay expenses. I have now 29 colonies of as nice Italians as you read about. They produced this past season 300 pounds of comb and extracted honey, and I sold $24 worth at 10 and 12½ cents. Some years we get nothing and often next to nothing. The past sea-

200-Egg Incubator for $12.00

Perfect in construction and action. Hatches every fertile egg. Write for catalogue to-day.
GEO. H. STAHL, Quincy, Ill.

46A25t Please mention the Bee Journal.

BEE-SUPPLIES.

Muth's Square Glass Honey-Jars.
Send for Catalog.

HONEY AND BEESWAX WANTED.

C. H. W. WEBER,
42Atf 2146 Central Ave., Cincinnati, Ohio.

Please mention Bee Journal when writing.

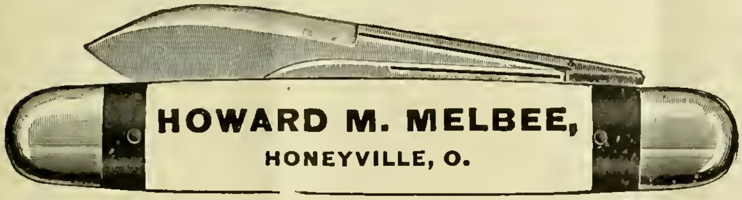
The Emerson Binder

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

GEORGE W. YORK & CO.,
118 Michigan Street, CHICAGO, ILL.

The Novelty Pocket-Knife.

Your Name and Address on one side—Three Bees on the other side.



[This Cut is the Full Size of the Knife.]

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The holsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your Pocket-Knife will serve as an identifier; and in case of death, your relatives will at once be notified of the accident.

How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

How to Get this Valuable Knife.—We send it postpaid for $1 10, or give it as a Premium to the one sending us THREE NEW SUBSCRIBERS to the Bee Journal (with $3.00.) We will club the Novelty Knife and the Bee Journal for one year, both for $1.90.

GEORGE W. YORK & CO., 118 Mich. St., Chicago, Ill.

☞Please allow about two weeks for your knife order to be filled.

PATENT WIRED COMB FOUNDATION
Has no Sag in Brood-Frames.
Thin Flat-Bottom Foundation
Has no Fishbone in the Surplus Honey.
Being the cleanest is usually workt the quickest of any foundation made.
J. A. VAN DEUSEN,
Sole Manufacturer,
Sprout Brook, Montgomery Co., N.Y.

GINSENG—Book all about it 4c. Tells how to grow this great money maker. Write to-day. AMERICAN GINSENG GARDENS, Rose Hill, N. Y.

For Sale 15 colonies of bees in good chaff hives; also a good farm.
46A3t ALBERT BAXTER, Muskegon, Mich.

Please mention Bee Journal when writing advertisers.

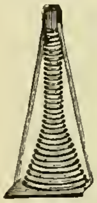
son I began to think of the old American Bee Journal, and concluded to write a postal and see if you were still in the land of the living, and prosperous in "the home of the brave."

I have been keeping bees since 1876, and obtained my first swarm on Whitsunday of that year, as I was taking a walk. Passing along under a large cherry-tree I heard a large humming overhead, and upon looking up I discovered a large cluster of blacks. To secure the prize was the problem. In half an hour everybody will be going to church, and to be caught running to a very religious neighbor aroused some mental reservations; besides, people would exclaim, "Young was caught violating the sanctity of the Sabbath." But the fugitives must be captured, so I decided. I went to the house and said to my "better half," "Let's knock the inside out of that humbug churn that I was swindled in." "Agreed;" and soon the contemptible churn was a fair-looking receptacle for the strangers.

Out to the tree was the next move,

GEO. WEBSTER

The Best Dishorner.
The easiest on both operator and cow, because it makes the smoothest, quickest cut is the
CONVEX DISHORNER.
My Bucker Stock Holder and calf dishorners are equally good. All dishorning appliances.
Illustrated Book Free.
Geo. Webster, Box 123, Christiana, Pa.
Western trade supplied from Chicago.
Please mention Bee Journal when writing



Queen-Clipping Device Free....

The Monette Queen-Clipping Device is a fine thing for use in catching and clipping Queens wings. We mail it for 25 cents; or will send it FREE as a premium for sending us ONE NEW subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,
GEORGE W. YORK & COMPANY,
118 Michigan St., Chicago, Ill.

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F.B.W.Co.

We Can't Give Away Anything

You pay for what you get in this world. You understand that. But as a business proposition we want you to try our great medicine for Indigestion, Constipation, Biliousness, Sick Headache, Insomnia, "the Blues," and like complaints—

Laxative **NERVO-VITAL** Tablets

We know you won't buy it, until you know something about it. The best way to get you to know how good it is, is to let you try it. That's what we do. Send Stamp for "Health" booklet, and we will send you a free sample package, that you may try it yourself. We know you will always keep it in the house, if you once try it. What fairer offer could we make? At all Druggists—10 and 25 cents.

Handsome Stick Pin FREE!

If, instead of sending for a sample, you send us 25c we will send you "Health" booklet, a 25c box and a handsome gold stick-pin, set with emerald, ruby or pearl, warranted to be worth double the money. Order by number. This is an extra introductory offer. Only one pin to one person. If unsatisfactory, money returned. Send now while the offer is good.

MODERN REMEDY COMPANY, KEWANEE, ILLINOIS.

[This company will do exactly as it promises.—Editors.]

A HANDY TOOL-HOLDER!

Sent by Express, for $1.50; or with the Bee Journal one year—both for $2.00.

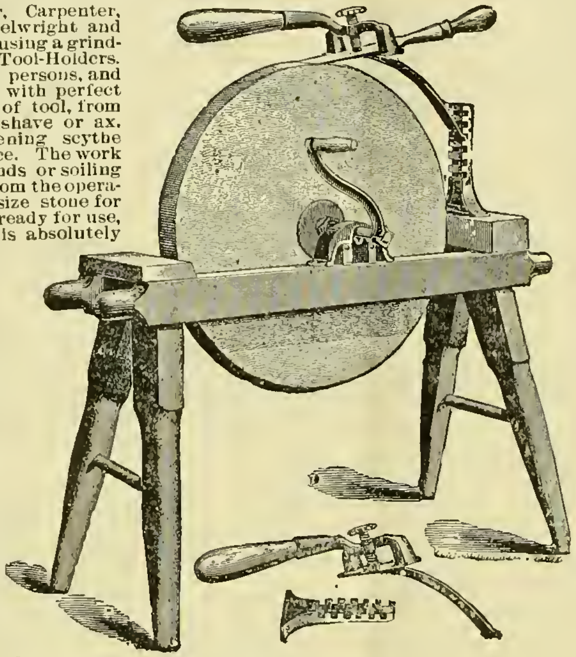
Every Manufacturer, Miller, Carpenter, Cabinet Maker, Machinist. Wheelwright and Quarryman, Farmer, or any one using a grindstone, should have one of these Tool-Holders. One boy can do the work of two persons, and grind much faster, easier and with perfect accuracy. Will hold any kind of tool, from the smallest chisel to a draw shave or ax. Extra attachment for sharpening scythe blades included in the above price. The work is done without wetting the hands or soiling the clothes, as the water flows from the operator. It can be attached to any size stone for hand or steam power, is always ready for use, nothing to get out of order, and is absolutely worth **100 times its cost.**

No farm is well-equipped unless it has a Tool-Holder. Pays for itself in a short time.

How to Use the Holder.

DIRECTIONS.—The Tool is fastened securely in the Holder by a set-screw and can be ground to any desired bevel by inserting the arm of the Holder into a higher or lower notch of the standard. While turning the crank with the right hand, the left rests on and steadies the Holder; the Tool is moved to the right or left across the stone, or examined while grinding, as readily and in the same way as if held in the hands.

For grinding **Round-Edge Tools**, the holes in the standard are used instead of the notches.



GEORGE W. YORK & CO.
118 Michigan Street, CHICAGO, ILL.

BEES QUEENS
Smokers, Sections, Comb Foundation
And all Apiarian Supplies cheap. Send for FREE Catalogue.
E. T. FLANAGAN, Belleville, Ill.

Please mention Bee Journal when writing.

ELECTRIC HANDY WAGONS
excel in quality strength, durability. Carry 4000 lbs. They are Low priced but not cheap. Electric Steel Wheels—straight or staggered oval spokes. Any height, any width of tire to fit any wagon. Catalogue FREE.
ELECTRIC WHEEL CO., Box 16, Quincy, Ills.

FREE FOR A MONTH....

If you are interested in Sheep in any way you cannot afford to be without the best Sheep Paper publisht in the United States.

Wool Markets and Sheep has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.

WOOL MARKETS AND SHEEP, CHICAGO, ILL.

Please mention Bee Journal when writing.

THERE IS NO INCUBATOR
which has been more successful than the SUCCESSFUL. You hear about them everywhere. The reason is that they do their work so well. Send 6c in stamps for new 154p. book, printed in 5 languages, describing our Successful Incubators and Brooders. They deserve their name.
Des Moines Incubator Co., Box 78, Des Moines, Iowa.

The Fannie Field Poultry Pamphlets Cheap.

We will mail you your choice of any of the following 64-page poultry pamphlets at **10 cents each, or all 3 for only 25 cents**—while they last:

POULTRY FOR MARKET.—It is written for those who wish to make poultry-raising profitable.

CAPONS AND CAPONIZING.—It shows in clear language and by illustrations all the particulars about caponizing fowls, and thus how to make the most money out of them. Every up-to-date poultry-keeper should have it.

OUR POULTRY DOCTOR, or, Health in the Poultry Yard, and How to Cure Sick Fowls. All about poultry diseases and their cure.

Remember, we mail the above at 10 cents each, or all three for 25 cents; or for $1.10 we will mail the three pamphlets and credit your subscription to the American Bee Journal for one year. Address,

GEORGE W. YORK & CO.,
118 Michigan Street, CHICAGO, ILL.

and with the aid of a ladder I was soon up and presented my credentials. The limb was soon severed and gently taken to the home which they were to occupy if accepted. With a rush and a hum of delight they soon were establisht in "headquarters."

The next winter I wanted to be good to them, you know, and took them to the cellar to spend the winter. The next spring I bought 5 colonies of blacks in old gums, transferred them and Italianized the whole lot.

W. R. YOUNG.

Frederick Co., Md., Nov. 2.

How's This for a Crop?

My honey crop this year was 19,258 finisht sections from 142 colonies, and increase to 265 colonies. From my best colony I took off 346 completed sections.

ERWIN WILLIAMS.

Otero Co., Colo., Oct. 23.

Not Much Honey This Year.

Bees in Tulare County did not store very much honey this year. One of my neighbors and myself run 150 colonies for extracted honey, and secured a little over 5 tons. A few miles south of us the bee-men had to feed their bees to tide them over winter.

DAN CLUBB.

Tulare Co., Calif., Nov. 1.

Comb-Honey Management—Clipping Queens.

In running for comb honey in this county we put the supers on early, then, if the bees swarm, hive them on the old stand, turn the old hive around, throw all the flying bees we can in with the new swarm, and lift out the brood-frames and shake nearly all of the bees in front of the new hive. Then, from some other hives we take frames with sealed brood or combs of honey and exchange all the unsealed larvæ there is in the hive, even if we have to give some to a nucleus, as we don't want anything that needs feeding. Then we take a piece of wire-screen such as is used on doors, and cover over the top of the supers on the new hive. Next we brush all the bees that are on the frames of the old hive in front of the new one, and set the old hive on top of the supers. By not having the entrance very large the bees will generate heat enough to hatch out all the brood. As the bees hatch out we slip some of the old brood-frames down below. Every few days shake all the young bees that have hatcht out down in front. It is well to leave some young bees in the top hive to kill the little ants and protect the honey from the moths.

This method is to let them swarm without increase in colonies, but lots of bees.

The Monette queen-clipping device is not made exactly as it should be, or, in other words, there is too much of it. I used something similar to it many years before it was advertised in the bee-papers. Take off that slide or door on the bottom, and when you want to clip a queen hold the device in your left hand and put it down over her as she runs on the comb, then press down, and this pressure will close the wire at the bottom and make it dark, when the

Sharples Cream Separators: Profitable Dairying

queen will run up into it; then lift it from the comb, and let your finger follow after her. Now the device is on your finger like a thimble, and you have both hands to work with. Put the frames all back and put on the top-board, then clip away. You can crowd the queen with your finger so that she is almost still. Clip thru the wire with scissors. C. CRANK.

Oscoda Co., Mich., Nov. 3.

Illinois.—The 10th annual convention of the Illinois State Bee-Keepers' Association will be held at the State House at Springfield, on Tuesday and Wednesday, Nov. 20 and 21, 1900. The I.O.O.F. will have their State meeting the same week, and we get the benefit of their rates, going Monday and Tuesday and returning as late as Saturday. Round trip tickets must be obtained at starting point in order to get the benefit of the rates. A good program is expected. Those who wish the full benefit of the meeting will have to be in attendance.

JAS. A. STONE, Sec.
R. R. No. 4, Springfield, Ill.

Colorado.—The Colorado State Bee-Keepers' Convention will be held Nov. 21, 22, and 23, 1900, in Denver. The horticulturists meet at the same time and place. F. RAUCHFUSS, Sec.
Box 378, Denver, Colo.

YELLOW OR WHITE

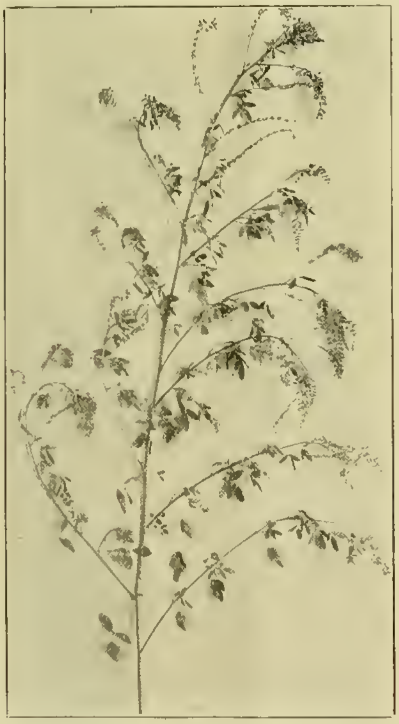
Sweet Clover Seed

—FREE AS A PREMIUM—

For Sending us One New Subscriber for a Year.

There has been so much written about both the white and the yellow variety of sweet clover, that we will simply say here that if one of our present regular subscribers will send us $1 with a new name for next year (1901), we will send the new subscriber the balance of this year's (1900) numbers free, and mail, postpaid, to the one sending the new name and the dollar, either **one pound** of yellow sweet clover seed, or **two** pounds of the white sweet clover. This is a good chance to get a start of both kinds of these honey clovers. Better send two new subscribers (with $2.00) and get the three pounds of seed. Address,

GEORGE W. YORK & CO.
118 Michigan Street, - CHICAGO, ILL.



BEE-BOOKS

SENT POSTPAID BY

George W. York & Co. 118 Mich. St. Chicago.

Bees and Honey, or Management of an Apiary for Pleasure and Profit, by Thomas G. Newman.—It is nicely illustrated, contains 160 pages. beautifully printed in the highest style of the art, and bound in cloth, gold-lettered. Price, in cloth, 75 cents; in paper, 50 cents.

Langstroth on the Honey-Bee, revised by Dadant.—This classic in bee-culture has been entirely re-written, and is fully illustrated. It treats of everything relating to bees and bee-keeping. No apiarian library is complete without this standard work by Rev. L. L. Langstroth—the Father of American Bee-Culture. It has 520 pages, bound in cloth. Price, $1.25.

Bee-Keepers' Guide, or Manual of the Apiary, by Prof. A. J. Cook, of the Michigan Agricultural College.—This book is not only instructive and helpful as a guide in bee-keeping, but is interesting and thoroly practical and scientific. It contains a full delineation of the anatomy and physiology of bees. 460 pages, bound in cloth and fully illustrated. Price, $1.25.

Scientific Queen-Rearing, as Practically Applied, by G. M. Doolittle.—A method by which the very best of queen-bees are reared in perfect accord with Nature's way. Bound in cloth and illustrated. Price, $1.00.

A B C of Bee-Culture, by A. I. Root.—A cyclopædia of 400 pages, describing everything pertaining to the care of the honey-bees. Contains 300 engravings. It was written especially for beginners. Bound in cloth. Price, $1.20.

Advanced Bee-Culture, Its Methods and Management, by W. Z. Hutchinson.—The author of this work is a practical and entertaining writer. You should read his book; 90 pages, bound in paper, and illustrated. Price, 50 cents.

Rational Bee-Keeping, by Dr. John Dzierzon. —This is a translation of his latest German book on bee-culture. It has 350 pages, bound in paper covers, $1.00.

Bienen-Kultur, by Thos. G Newman.—This is a German translation of the principal portion of the book called "Bees and Honey." 100-page pamphlet. Price, 25 cents.

Bienenzucht und Honiggewinnung, nach der neuesten methode (German) by J. F. Eggers.—This book gives the latest and most approved methods of bee-keeping in an easy, comprehensive style, with illustrations to suit the subject. 50 pages, board cover. Price, 50 cents.

Bee-Keeping for Beginners, by Dr. J. P. H. Brown, of Georgia.—A practical and condenst treatise on the honey-bee, giving the best modes of management in order to secure the most profit. 110 pages, bound in paper. Price, 50 cts.

Bee-Keeping for Profit, by Dr. G. L. Tinker. —Revised and enlarged. It details the author's "new system, or how to get the largest yields of comb or extracted honey." 80 pages, illustrated. Price, 25 cents.

Apiary Register, by Thomas G. Newman.—Devotes two pages to a colony. Leather binding. Price, for 50 colonies, $1.00; for 100 colonies, $1.25.

Dr. Howard's Book on Foul Brood.—Gives the McEvoy Treatment and reviews the experiments of others. Price, 25 cents.

Winter Problem in Bee-Keeping, by G. R. Pierce.—Result of 25 years' experience. 30 cts.

Foul Brood Treatment, by Prof. F. R. Cheshire.—Its Cause and Prevention. Price, 10 cts.

Foul Brood, by A. R. Kohnke.—Origin, Development and Cure. Price, 10 cents.

Capons and Caponizing, by Dr. Sawyer, Fanny Field, and others.—Illustrated. All about caponizing fowls, and thus how to make the most money in poultry-raising. 64 pages. Price, 20c.

Our Poultry Doctor, or Health in the Poultry Yard and How to Cure Sick Fowls, by Fanny Field.—Everything about Poultry Diseases and their Cure. 64 pages. Price, 20 cents.

Poultry for Market and Poultry for Profit, by Fanny Field.—Tells everything about Poultry Business. 64 pages. Price, 20 cents.

MISTAKES COST MONEY.

You need make no mistake in buying an incubator if you send for our

NEW PREMIER Incubator.

Give it a thorough trial, when satisfied pay us for it. None better made. Took first premium at World's Fair. Also sole makers of Simplicity Incubators. Send 5c. postage for illustrated catalog and "Poultry Helps."

COLUMBIA INCUBATOR CO., 5 Water St.. Delaware City, Del.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Nov. 8.—There is a demand for fancy white comb honey at 16c that takes all of this grade upon arrival; other grades are less active, with No. 1 white at 15c; amber and travel-stained white ranges from 13@14c, with dark amber and buckwheat comb 10@12c. Extracted, white, 7½@8c; amber, 7@7½c; dark grades, including buckwheat, 6½@6¼c. Beeswax, 28c. R. A. BURNETT & CO.

KANSAS CITY, Oct. 25.—Fancy white comb, 14@15c; receipts light; amber, 13@14c; dark amber, 9@11c; slow sale. Beeswax, 24@25c; fair demand; light receipts.

W. R. CROMWELL PRODUCE CO.,
Successors to C. C. Clemons & Co.

BUFFALO, Nov. 8.—The high prices attract increast receipts, but fancy white comb is sustained and active at 17@18c; fair to good, 14@15; buckwheat, etc., 11@12c. Supplies here are moderate. All small lots. Extracted is selling some better. Fancy, 8@9c; common would sell at less. Beeswax, 25@30c. BATTERSON & CO.

ALBANY, N.Y., Nov. 10.—Best white comb, 16@17c; good, 15@16c; mixt, 14@15c; best buckwheat, 13@14c; good, 12@13c. Best white extracted, 9@9½c; mixt, 7½@8½c; buckwheat, 6@6½c.

The honey market holds firm here; receipts light and but little stock on hand.

H. R. WRIGHT.

BOSTON, Nov. 9.—Our market on honey continues strong, with light receipts. Fancy one-pound cartons, 17c; A No. 1, 15@16c; No. 1, 15c; No. 2, 12@13c. Extracted from 7½@8½ cents, according to quality. Beeswax steady at 25@27c.

BLAKE, SCOTT & LEE.

CINCINNATI, Sept. 21.—The demand for fancy comb honey is good and finds ready sale at 16@16½c; No. 1, 15c. The demand for extracted honey at present is slow and offer same by the barrel as follows: White clover, 8½@9c; Southern, 6½@7½c; Florida, 7@8 cents, according to quality. Beeswax, 27c.

The above are MY SELLING PRICES. I do not handle any honey on commission, but pay spot cash on delivery. C. H. W. WEBER.

NEW YORK, Oct. 19.—During the past two weeks, receipts of comb honey have been quite extensive, several carloads of California and Nevada honey having arrived, and some large shipments of buckwheat, and for the present there is plenty of supply to meet the demand. We quote: Fancy white comb, 15@16c; No. 1, white, 14@14½c; fancy amber, 12½@13c; amber, 11@12c; buckwheat, 10@11c.

There are no new features in regard to extracted honey. The demand is fair at unchanged quotations. Beeswax dull at 27c.

HILDRETH & SEGELKEN.

DETROIT, Oct. 29.—Fancy white comb, 15@16c; No. 1, 13@14c; darker grades, 10½@11c. Extracted, white, 7½@8½c; amber and dark, 5½@6½c. Beeswax, 26@28c.

Market firm for comb honey, but not much call for extracted. M. H. HUNT & SON.

SAN FRANCISCO, Oct. 31.—White comb, 13@14 cents; amber, 11½@12½c; dark, 8@9c. Extracted, white, 7½@8c; light amber, 6¾@7¼c; amber, 5½@6½c. Beeswax. 26@28c.

There would be considerable activity in this article if stocks were obtainable in greater quantity at or near the values now ruling. Supplies are too small, however, to admit of much movement. Present offerings are mostly of amber grades and a rather large proportion is comb.

A HONEY MARKET.—Don't think that your crop is too large or too small to interest us. We have bought and sold five carloads already this season, and want more. We pay spot cash. Address, giving quality, quantity and price,

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What have you to offer and at what price?

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a rate of one fare and a third for the round trip has been authorized to points within 150 miles, on the Nickel Plate Road, Chicago Passenger Station, Van Buren St. and Pacific Ave., on the Loop. City Ticket Office, 111 Adams St. 38

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Sweet Clover (white)	60c	$1.00	$2.25	$4.00
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Crimson Clover	70c	1.20	2.75	5.00
Alsike Clover	80c	1.50	3.50	6.50
White Clover	90c	1.70	3.75	6.50
Alfalfa Clover	80c	1.40	3.25	6.00

Prices subject to market changes.

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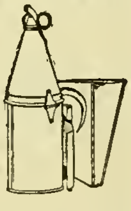

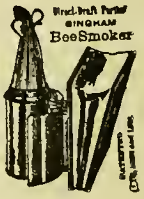

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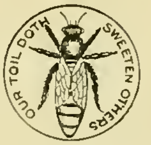
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AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., NOVEMBER 22, 1900.

FORTIETH YEAR. No. 47.

WEEKLY

P. H. ELWOOD, of New York,
Director of the National Bee-Keepers' Association.

F.B.WHITE CO. CO.

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Index to the Chapters of the Book.

—o—

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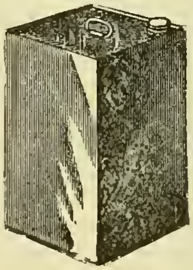

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118 Michigan St., Chicago, Ill.

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Reformed Spelling.—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

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—BY—

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AMERICAN
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THE OLDEST BEE-PAPER IN AMERICA
BEE JOURNAL

40th YEAR. CHICAGO, ILL., NOVEMBER 22, 1900. No. 47.

✻ Editorial Comments. ✻

Moving Bees 1,100 Miles in November is reported by John D. Bixby in the Bee-Keepers' Review. The loading on cars began Nov. 18, the weather was mild, freezing only at night, and the bees were settled in their new place after 11 days, altho only 4½ days on the railroad. The loss in stores and bees was heavy, most colonies having a pint to a quart of dead bees on the bottom-board. But, he thinks these were mostly old bees, as the loss in winter was light.

Spacing Extracting-Frames.—C. Guillemin says in Revue Eclectique that for years he has spaced his extracting-frames 1⅝ to 1¾ inches from center to center, and is well pleased with it. The thick combs projecting beyond the wood of the frame make the work of uncapping easier, and there is also less surface to uncap for a given weight of honey. The queen is less likely to invade the surplus apartment when the combs are so thick. There is a saving in the number of frames and the amount of foundation employed. Some, however, would argue that thinner combs would facilitate more rapid evaporation.

Local Bee-Keepers' Associations can do much more than they might at first think, toward aiding the National Association, and for the interest of the pursuit of bee-keeping at large.

Hon. Eugene Secor, the general manager of the National Bee-Keepers' Association, was askt by the Chicago Bee-Keepers' Association as to what he thought local associations could do to assist the National, and here is his reply:

WHAT CAN LOCAL BEE-KEEPERS' ASSOCIATIONS DO TO HELP THE NATIONAL?

First.—They can join the National in a body, and thus add to its influence by increasing its numbers. A membership of one thousand is more than proportionately stronger than of one hundred.

While a full treasury can accomplish some things, of more importance is a united and interested constituency behind it. If the South African republic had had *men* enough she would have successfully resisted the power of Great Britain. If our association comprised all the bee-keepers in the land, as the Boer army comprised all the fighting population of the Transvaal, we might, with equal generalship and equal enthusiasm, overpower the enemy of adulteration. We could make ourselves felt in the Congress of the United States; we could influence State legislation; we could stiffen the backbone of officers whose duty it is to enforce the laws. The very fact of a large membership would have its effect on every contemplated aggression against the rights of bee-keepers.

Second.—They can discuss the objects of the Association, and thus become familiar with its purposes. Many bee-keepers do not appear to understand what we are trying to accomplish, or the importance of standing together to bring about results. Every individual in the country has some influence in the community where he lives. If that influence is properly exercised it will do much to discourage adulteration and help to enlighten the people on the value of honey and the importance of the honey-bee.

Third.—They might with profit discuss methods of warfare against the adulteration of honey, and agree on an organized plan of collecting evidence for the use of the National Association.

The National is willing to furnish the funds to pay expenses, but the work of massing evidence must be done by friends in the community where suits are brought. It is impossible for the general manager to leave his home for the purpose of working up cases of violation of law. It would be very expensive, even if he had the time. But local associations might assist very materially and effectually. These matters could be discust with great profit, especially if the society happens to be in a State or city where open violations of the pure-food laws are practiced.

EUGENE SECOR.

But in many places there are no local bee-keepers' organizations to unite with the National in a body. In that case we wish to say that we will be pleased to receive the membership dues of $1.00 each when such of our readers are renewing their subscriptions for another year. We will forward the amount to Mr. Secor, when he will mail receipts to the members thus paying.

This is an exceedingly important matter, and we hope our readers will not neglect it. The membership roll of the National should number thousands, so that its treasury would be ample to push the cases which it undertakes in the interest of bee-keeping.

It may be that nearly all who pay their dues may personally never need the help of the National, but they will be just as much interested in the successful prosecution of a case in which a brother member of the bee-keeping fraternity is directly affected, and also in all prosecutions of honey-adulterators.

Better get into line at once for the defense of apiculture, if not already a member of the National. You can't tell at what time *you* may need the aid it can furnish better than any other organization.

Wintering Bees in Clamps.—Of late little has been said about burying bees in clamps for winter, but Editor Hutchinson, of the Bee-Keepers' Review, says where outdoor wintering is unsafe, and one has no cellar, clamps may well be used. He speaks from personal experience, an experience that cost him nearly the whole of 96 colonies in one winter, because they had no ventilation, and perhaps because the number was so large. There was no dysentery; the combs were clean, dry, and full of honey, but the bees had deserted the hives and crawled all thru the straw. On a dry, sandy hillside (not in clay) he would have no hesitation in putting any number up to 25 or 30 into a clamp.

Queenlessness in the mother colony sometimes occurs, according to Schweiz. Bztg., in this way: After-swarms leave the colony so weak that the cluster of bees shrinks away from the lower edges of the frames where alone are any queen-cells left, and these are chilled so that the colony is left hopelessly queenless.

✻ The Weekly Budget. ✻

The Chicago Convention, as has been said before, was the largest and best national convention ever held in this country. A big feature was the stereopticon views which were thrown on the canvas during each of the three evening sessions. The success of this part of the program was due to Pres. E. R. Root, Mr. W. Z. Hutchinson, and Mr. Huber Root, a younger brother of E. R. Root.

Referring to this matter in Gleanings in Bee-Culture, Editor Root wrote as follows:

> When I left for Chicago with my stereopticon outfit and slides I had just a little misgiving whether this feature of the meeting would be a success; but it succeeded beyond my own sanguine expectation—not from anything *I* said, but because of the enlivening speeches descriptive of the subjects thrown on the screen from Messrs. Abbott, Mason, York, Baldridge, France, Weber, Benton, and Hutchinson. While the pictures were for the most part good, yet had one speaker held the floor for the evening I fancy the entertainment would have been tiresome. As it was, we had the most delightful variety from all the gentlemen named; and after some of the speeches there was a general cheering and encore.
>
> Mr. Abbott introduced the poet laureate and general manager of the National Bee-Keepers' Association, Hon. Eugene Secor, whose picture was thrown on the screen. He spoke of the delightful poems which had emanated from Mr. Secor's pen; of the good work he had been able to perform in the interests of the Association; and as Mr. Abbott closed his happy speech there was a burst of applause. He likewise introduced, in the same delightful vein, Dr. Mason, Editor York, and E. Whitcomb—as their pictures were successively thrown on the screen.
>
> Mr. York introduced Prof. A. J. Cook and Dr. C. C. Miller. Mr. C. H. W. Weber, who had bought out the business of the late C. F. Muth, spoke feelingly of his acquaintance with Mr. Muth. He told how Mr. Muth had been known to have in his warehouse and on his platforms $75,000 worth of honey at a time, which he had bought of bee-keepers, paying cash for it.
>
> Dr. Mason, in his usual genial manner, said some very pleasant things of W. Z. Hutchinson and of E. T. Abbott, and then when some comic pictures were thrown on the screen illustrative of certain familiar scenes in the apiary, he told how he had been there too.
>
> R. C. Aikin, of Colorado, president of the Colorado State Bee-Keepers' Association, introduced W. L. Porter, of Denver; also Frank Rauchfuss and J. E. Lyon, prominent bee-keepers of Colorado.
>
> N. E. France told something about his methods when pictures of his apiaries were thrown on the screen.
>
> M. M. Baldridge, one who has been, perhaps, connected with bee-keeping longer than most living bee-keepers, told of his early acquaintance with Langstroth when the father of American bee-keeping had just launcht out into the new industry and put out his book, which, for real practical value and literary excellence, has never been excelled. In connection with the full-portrait view of Langstroth there was shown a picture of him as he was walking thru a park in Dayton a year or so before he died; and finally there was shown in colors the Langstroth monument, where it now stands, and which has been purchast wholly by small sums from grateful bee-keepers of this and other lands.
>
> Mr. Frank Benton, who is intimately acquainted with Capt. J. E. Hetherington, referred to his having been styled the "prince of American bee-keepers," and very properly so, and the most extensive bee-keeper, probably, in all the world. He dwelt upon his army record, of which any bee-keeper or soldier might well be proud; explained how his sword had been struck and bent by a bullet that would have pierced the Captain's heart while he was in the thick of the fight directing his men, and a fine target for sharp-shooters, and how he fought for the flag that thrills the heart of every American. At this remark, Old Glory was thrown on the screen in all its beautiful colors. General applause followed; for besides the loyal bee-keepers there were many old soldiers who had come to attend the great G. A. R. gathering.
>
> On the last evening, Thursday night, Mr. Hutchinson, by the aid of the stereopticon, took us on a delightful trip among bee-keepers thru Wisconsin and Michigan. He not only showed the pictures of persons he had met and of the apiaries he had visited, but all the hive-manufacturing establishments where he had visited, including some he had not seen.
>
> The Chicago Bee-Keepers' Association, which entertained us so royally, first arranged for a small hall, but finally at the last minute they found it was necessary to secure a hall that would seat comfortably 500 people; and the wisdom of this change was made apparent the first evening. The Chicago Bee-Keepers' Association not only entertained us handsomely, but paid all bills, and even furnisht a big brass band which came into the convention hall and served us with some delightful music during recess times.
>
> The great national convention of bee-keepers—the largest conclave that ever met in the Western Hemisphere—will long be remembered. It is doubtful whether there will be another meeting as large until we meet again in that great hot-bed of bee-keepers—Chicago. The Association ought to consider this its home, and should go home at least once in 5 years.

Surely the members of the Chicago Bee-Keepers' Association are under obligation to Editor Root for all the kind things he has said about them.

The brass band mentioned was the Dupage County Band, of Wheaton, Ill., about 25 miles west of Chicago. Mr. John P. Weibler, a well-known employe at the American Bee Journal office, and two of his brothers-in-law, were members of the band. Thus it was possible to secure them at practically their expenses, else it would have been too great a luxury for the convention entertainment fund to bear.

Mr. H. D. Burrell was not threatened by a lawsuit on account of his bees visiting a neighbor's peach-orchard, as stated on page 676, we are glad to be able to report. It seems that feature of the supposed case was, as usual, the result of the imagination of a newspaper reporter. Here is what Mr. Burrell himself writes us about it:

> In regard to the Chicago Record "special" about bees and peaches mentioned in the American Bee Journal, please give me space to say:
>
> A neighbor did complain that our bees were working on his peaches, and he thought they were doing considerable injury, but no damages were demanded, and no lawsuit was mentioned. We are good friends, and always have been. It was during hot, moist weather, and peaches in all orchards in this great peach-growing country were decaying badly on the trees, in many cases before they commenced to ripen. There were few blossoms at the time to keep bees busy.
>
> I suppose some enterprising but dishonest newspaper correspondent invented for a sensation the "special." He certainly accomplisht his object, for the article has been copied far and wide, and I have been kept busy answering questions from many different States. I wish here to thank the many bee-keeping friends for kind words and suggestions.
>
> Perhaps some of our readers may not know that a series of experiments were conducted by the United States Department of Agriculture, to ascertain if bees could puncture or bite open fruits. Prof. Riley was chief entomologist of the Department at the time, and the experiments were under his direction. Ripe peaches, pears, plums, and 23 varieties of grapes, were placed where bees were confined and subjected to fasting. All damaged fruits were quickly appropriated by the bees, but they were unable to get at the juices of sound fruit. If the skin of a sound fruit was punctured by a needle, the bees soon suckt out the contents, but without this assistance, altho they crawled over the fruit every day for some time, seeking points of attack, the bees finally starved. The account of these experiments may be found in the report of the United States Department of Agriculture for 1885, pages 336-339.
>
> Van Buren Co., Mich., Nov. 5. H. D. Burrell.

We are indeed pleased to know that the report referred to is proven a false one. Perhaps we should have written Mr. Burrell before copying it from The Record, but as there have been similar reports that were true, we did not question this one.

Convention Proceedings.

Report of the Proceedings of the 31st Annual Convention of the National Bee-Keepers' Association, held at Chicago, Ill., Aug. 28, 29 and 30, 1900.

BY DR. A. B. MASON, SEC.

(Continued from page 727.)

THIRD DAY—MORNING SESSION.

The Thursday morning session of the convention was called to order by Pres. Root, and was opened with prayer by Rev. L. Allen, after which there was a song by Miss Ethel Acklin.

Pres. Root—The first thing on the program this morning is the paper by Dr. William R. Howard, of Ft. Worth, Tex. I received it this morning, and have handed it to Mr. York and requested him to read it.

VARIOUS FORMS OF DISEASES AMONG BEES—CAUSE AND CURE.

In 1881 and 1882 I undertook the investigation of bee paralysis and dysentery. As laboratories for original research were then crude compared with those of the present day, my success was not pronounced. Since I have been better equipt with laboratory appliances, and become better acquainted with the technic necessary for such investigations, I have, again, partially investigated these diseases.

In dysentery, I have succeeded in finding several forms of fungi and water bacteria, none of which were isolated or determined; neither were the experiments made with cultures capable of reproducing the disease in prosperous colonies. I have quite a number of times repeated these experiments without arriving at any satisfactory conclusions. I have found as many as a dozen forms of fungi, besides numbers of algids, water bacteria, etc., growing in cultures made from bees of a single colony; this, at first, was somewhat strange, but further investigation showed that the pollen (bee-bread) found in these combs furnisht many of the same forms which, on suitable media, grew luxuriantly. Cultures made from the excreta and body contents gave similar results.

Here allow me to mention a point worthy of attention, since it has been taught and is very generally believed, that old bees do not consume pollen when in a normal state; that they may be successfully wintered without it; that they do not require it except for brood-rearing; etc. I have always found more or less pollen in the stomach of all bees, both old and young, whether suffering from disease or in a healthy condition. I have always found pollen more abundant in the bees during confinement, especially in the spring months, but I have examined them during all the months with the same results. Climate may have something to do with it, as bees here are usually not confined over a week at a time during the winter months. In all bees suffering from dysentery, that have fallen under my observations, they have had an abundance of pollen, heavily charged with various forms of fungi in their excreta.

These outbreaks of dysentery usually follow a period of activity closed with a few days of confinement, on account of showers or cold weather sufficient to prevent daily flying. Frequently pollen has been gathered from flowers upon which the rain has fallen; this may have had fungi from the branches of the plant or tree conveyed to it by the rains.

The warm, wet weather of spring starts to life thousands of forms of microscopical animal and vegetable organisms. Trees, plants, ponds, pools, etc., become literally alive with groves and swarms. Thru the water many of these forms find their way to the hives, bringing about unsanitary conditions, which, to a greater or less extent, influence the general health of the colony, giving rise to spring dwindling, and possibly dysentery, paralysis, etc.

I have seen yards badly affected with paralysis and dysentery cured in a few days by feeding artificial pollen and pure water in the hive, when the weather was too bad for bees to fly; or fed in the open air when the weather was fair. Good water, plenty of honey in the field, fresh pollen and hygienic environments, will generally put an end to paralysis, dysentery, and pickled brood.

Apiaries should be so arranged and located that plenty of sunlight and pure, fresh, dry air could circulate thru them; the bottom-board should always be dry, even on the underside; many harmless molds and mildews spring up in the presence of heat and moisture, some grow in the dark better than in the light, many spores are carried into the hive and find a suitable medium in which to grow. High weeds and grass should not be allowed to grow about hives, neither should the shade be so dense that a few hours' sunshine could not dry the ground.

Cheshire found the cause of some of these diseases to be a bacillus which he isolated. I have not been so fortunate as to isolate a single species that would infect a prosperous colony with paralysis or dysentery. In fact, during a good honey-flow, with a prosperous colony and proper sanitation, it will be found a difficult task to infect such a colony with any disease and obtain immediate disastrous results. The most infectious, and one that is always present and more or less visible, is foul brood. Black brood, pickled brood, dysentery and paralysis all disappear during a good honey-flow and hygienic surroundings; to this common-sense principle the "McEvoy method" owes its success.

Much has been said in conventions and written for journals on paralysis, yet little is known as to its cause. I have not had the time at my disposal to make a thoro analysis of this disease, but will give some of the results obtained. It appears, at first, as an indigestion; dissection shows obstruction in the way of casts of pollen and fungi in the true stomach and intestinal tract; there seems to be an enlargement, as if engorged, of the tubules corresponding to the urinary apparatus of higher animals—a general displacement of the internal organs is common. The mycelia, or threads, of various fungi are found in the uriniferous tubules and air-passages of those dead from the disease. All of these bring me to conclude that when an individual bee has a bad case of paralysis nothing would cure it, and that it might be worthless if cured. What is usually meant by curing all diseases among bees, is stopping the infection from spreading to new individuals, and not individual cures.

In dysentery dissection shows a dropsical condition, an extra amount of fluids in the circulatory system, fungus and pollen casts in the excretory organs, and in some cases a great amount of liquid in the alimentary tract.

In pickled brood the adult bee is rarely affected; in the larva and pupa much the same conditions are found as in the adult bee in dysentery, and I have known pickled brood to follow dysentery and finish the destruction of the already decimated colony. In this, which is strictly a fungus disease, the attack seldom occurs before the feeding of pollen, yet I have sometimes found it earlier in larval life, where the disease had raged previously. Combs which have had any disease, whether of a fungus or bacterial nature, are never entirely free from the infection; while many cells may be free and safe, yet, as a rule, there always lurks spores capable of reinfection. Nearly all bee-bread contains fungi of various forms which are gathered with it, but which are unimportant, as they do not grow except upon the leaves of plants, grasses, etc., and are incapable of producing disease.

In the two colonies which were used for experimental purposes last spring, in which black brood was well developt and thoroly establisht, the disease entirely disappeared during the spring honey-flow from horsemint; they became strong, and one swarmed, giving off a good swarm, which was placed in one of the hives, on the infected combs left after the death of the colonies used last winter in experimenting with this same black brood.

In order to make a more severe test on a new swarm during a good honey-flow, I used a sufficient number of all the combs sent from New York last fall to fill a frame, transferred these to the center of the brood-nest and watcht the results. The combs were all thoroly united and cleaned, and no disease occurred in this hive. A cessation of the honey-flow in the latter part of July came, and the disease reappeared, so that on the first of August quite a number of both larvæ and pupæ were found diseased. The fall honey-flow came in about this time, so that on Aug. 20th no sign of the disease was present. The disease recurred in one of the colonies used last spring—not the one which swarmed, nor in the new swarm.

In this disease the first germ-growth appears in the ventriculus, which, in the larva, is a blind sack, which, on account of the sedentary life and liquid food provided, is not a fully developt alimentary canal till late in pupal life. There is no evidence of solid excreta until after the bee is hatcht and begins to take food. In the larvæ the stomach (ventriculus) appears distended with pollen-grains, partially digested pollen atoms, chyle, a few fungi, bacteria, etc. The urinary apparatus, which develops early in larval life, appears engorged, sometimes colonies of bacteria are found within them. Much distortion and faulty development results from arrest of nutrition to the internal organs; there is a general abnormality of the glandular structures from faulty development. These developmental errors are due to the influence of the poisons elaborated by the bacteria in the digestive organs. In many examinations I have never been able to find growths or scattering bacteria in the dorsal vessel—which is the heart of the bee—or in any other parts of the vascular system.

In foul brood, if the egg has been deposited in a foul cell, when the food comes in contact with the infectious material, a suitable media is formed for the growth of the germ, and bacterial changes in the food destroy its nutritive qualities, and the young larva dies of starvation or from the effects of the poisons. Where the egg is deposited in clean combs, and the infection reaches the brood thru the food, growth of brood continues until the infectious growth changes the nutriment, produces poisons, and death results. The brood may continue to the pupa state, and death may take place after casting of the pupa skin, just before the bee is ready to emerge as a perfect insect. The fact that the alimentary tract is not a fully developt passage until the perfect state is reacht, may influence to some extent the virulence of the infection, and be held to explain why diseases which belong to the larval and pupal states do not infect the perfect state.

I have been unable to find any valid evidence for holding queens responsible for, or that they have any influence upon, the perpetuation of any disease with which I am acquainted. Cheshire's statement of finding the *bacillus alvei* in the undevelopt egg, in the blood of the queen, in spermatozoa of the drone, etc., has not been verified in this or in any other instance, so far as I am aware. He cites as a parallel case the silkworm disease, which was once so destructive in France. Bechamp, who was first to investigate the case, gave quite a lengthy detail of his investigations. Here is what he says, that led Cheshire to quote him:

"The microzyma multiplies in the interior of the moth, developing with its growth so that the infected moth is unable to lay its egg without depositing the spores at the same time, and thus exposes the young grub to attack as soon as it is born."

Bechamp nowhere states that the miniature ovum, or undevelopt egg, is attackt. Again, this is not a parallel case, inasmuch as the silkworm larva partakes of much solid food, voids solid excreta, is active, chooses its food, etc.; while the female moth lives but a few days, deposits thousands of eggs regardless of surroundings, and partakes of little or no food during her life.

Let us follow the undevelopt egg from its beginning to its deposition, and we shall see where the infection comes in contact with it.

The egg at first is a microscopical atom in the ovary answering to the ovum of higher animals, and subject to the same developmental changes; its growth begins under certain stimuli, and we now see it as a shapeless mass of apparently homogeneous matter, containing certain microscopical and chemical elements, in the minute channels of the ovary; as it continues to grow we find it in the larger channels, and finally the surrounding conditions to which it is subjected induce condensation of the peripheral zone, whereby the definite form is greatly favored; this progressive condensation is productive of a distinct limiting membrane; here, by high amplification, we discover the micropyle (little gates), or open pores, thru which spermatozoa enter the interior of the egg for the purpose of fertilization. Now passing the gate whose opening leads to the seminal receptacle, or spermatheca, it receives the seminal element, which later results in fecundation; passing now into the still broader channel—the oviduct—it comes in contact with a liquid secretion called "chitin," which appears at first of a gelatinous nature, but which soon hardens, forming the shell of the egg. In this chitinous fluid we may meet the infectious germ, but this is the only place we may reasonably expect to meet it. This gelatinous fluid serves to fasten the egg to the base of the honey-comb cell. If the infection were to depend upon the transmission by the seminal elements, what must be the condition of the seminal receptacle or spermatheca during the long life of the queen?

It may be a puzzle to some how such definite conclusions are arrived at, such as locating germ growths in the uriniferous tubules, malformations of glands, relative position of organs, etc. No better way can be found to explain this than to send with this sections of a larva and of a pupa. These sections are about 1-500 of an inch thick—much too thick for bacteriological study, so I send two or three sections about 1-1000 to 1-1500 of an inch in thickness. Serial or ribbon sections show the position very accurately of the organs, thickness and all. I have sections of bees of all ages and conditions. WM. R. HOWARD.

Accompanying the paper by Dr. Howard was the following, which he termed an

APOLOGY:

I had written my paper for illustrations, and not having time myself to make the pictures, I employed a competent draftsman, and furnisht him with such sections as I wanted pictured, and told him they were to be used as pictures from which to obtain lantern-slides. Our color-grounds etc., were all agreed upon, and when the work was to be delivered he informed me he could not finish it. I then began to rewrite and alter my manuscript, and am not satisfied with it now.

Since I began to rewrite this manuscript there has not been over one hour's consecutive work, usually 15 to 30 minutes, with hours and sometimes days of intermission, working at any time, daylight, midnight, and all hours.

I send some slides made recently for anatomical purposes, from which to make illustrations. A low-power microscope or a common hand-glass will show the relation.

I hope that you will excuse inaccuracies, etc., inelegant expressions, etc.

All remarks regarding cures, etc., had to be cut out in order to get this ready for to-day's mail.

Fort Worth, Tex., Aug. 26. W. R. H.

(Continued next week.)

Contributed Articles.

Keeping Queens Outside of Colonies of Bees.

BY G. M. DOOLITTLE.

A CORRESPONDENT wants me to tell, thru the columns of the American Bee Journal, how to keep queens outside of colonies of bees, he wishing to make preparation for so doing during the winter, if any special preparation is needed.

There are only two reasons that I know of why a laying queen should be kept outside of a colony of bees, except in the case of shipping them where sold to a customer, or transporting them from one apiary to another. This exception has been covered quite thoroly during the past in our bee-papers, no year having gone by but some one has had something to say in regard to sending queens in the mails, telling of the best cage, the best candy to use, the right number of bees to put with the queen, and so on. With me, I use a cage as made by the Root Company, of Ohio, and styled the small Benton cage, during the months of June, July, August, and September, where the queens do not have to go more than 1,000 to 2,000 miles away. And I often use these to send to any part of the United States and Canada, when I think the weather will prove warm enough until they reach their journey's end.

In all cages I use for food what is known as the "Good candy," no matter where sent.

For early spring and late fall, and when I fear the weather may be cold, I use a cage of the same pattern, but about three times as deep. With the first or smaller cage I use from 10 to 12 bees, and with the larger cage from 16 to 20. These workers are bees from six to ten days old, as nearly as can be told, or young bees which have had their first cleansing flight, as bees which have not flown to empty themselves of the accumulations collecting thru their larval period are not in condition to endure confinement to the best advantage.

Worker-bees are best caught and selected when they have their heads in the cells taking honey, and bees of the age spoken of above are far more likely to take honey when the hive is being disturbed than are those older or younger, so if the operator takes the bees that have their heads in the cells, loading with honey, upon the removal of the frames from the hive, he is not liable to be far out of the way in his selection of bees to ship as companions with a queen. Besides, such bees as are filling their sacs with honey seem to stand the journey much better than bees taken with empty sacs, as I have proven several times during the past. My way of accounting for this is, that the honey taken with them helps them to moisten the sugar in the candy, so the candy is more readily used than where they have no honey to moisten it with; for it is a well-known fact with those who have fed candy to bees for winter purposes, that, so long as honey remained in the hive, the candy would be moistened and used; but when the supply of honey gave out the bees would often starve with plenty of candy within easy reach. Since I learned this fact—that bees partly filled with honey when put into the shipping-cage were more likely to go thru in better shape than were a promiscuous selection—I have lost very few queens, and the past season has been one of unusual success, as only one queen out of every 387 sent out has been lost, so far as reports have come in.

For shipping to foreign countries, which are not more than 3,000 to 5,000 miles away, I use a four-hole cage, the same being twice the depth of the larger one spoken of above; while for countries from 5,000 to 11,000 miles away, like Australia and South Africa, I use a cage double the latter size, and having eight holes in it—three for the food, one for the bees to collect together in should they go over cold mountains or thru a cold wave, and four which are ventilated in every direction, for them to spread out in whenever or wherever it is warm or hot. In the first large cage I use 25 bees, and in the latter 40.

With part of the cages sent to foreign countries I have used a small piece of empty comb, so that the bees could store the honey taken in their sacs in it to use as they needed, thus making the cage appear more home-like; but I am not sure that any better results have been obtained with those as a whole.

Where the journey requires more than from 20 to 25 days, the results are always very doubtful. Perhaps I have dwelt too long on the exception part of this matter, but I do not see where to stop, and yet have it plain to a beginner.

One of the other reasons for desiring to keep queens outside of the hive is, where we wish to take the reigning queen from the hive in order to introduce another, or take one from a nucleus to make room for cells which must be taken care of before they hatch. It is always well to preserve the old queen when we are trying to introduce another in her stead; for, should it happen that the queen which we are desirous should supplant the old one is lost in introducing, then we will not be obliged to leave the colony queenless, as we have the old one on hand to give back to the bees; or we can give one of those taken from a nucleus, if preferred, to take the place of the lost one, if all of these have not been sent off to customers.

To keep such queens as last spoken of I use two methods. One is, to put them in cages with accompanying bees, the same as for shipment, placing the cages where a temperature of from 60 to 65 degrees can be maintained as nearly as possible, for such temperature seems to be most conducive to the longest life of bees when in confinement in a cage outside of the hive. The second is to place the queen in a provisioned cage without any worker-bees with her, placing the cage over the frames of a nursing colony. The nursing colonies are made of five or six frames of hatching brood, and are kept well stockt with young bees, which are not permitted to have a laying queen while used as a nursing colony.

My advice would be not to keep any queen away from the bees and combs, so but what she can lay, for more than three weeks, and, better still, not more than a few days, for I believe such confinement tends toward the injury of the queen thus kept.

The last reason for desiring to keep queens outside of the hive is, the prevention of increase while securing a crop of comb honey. A large increase of bees and a large crop of comb honey do not go together, and for this reason many of our best bee-keepers practice removing the queen from the hive when the swarming season arrives, and in nine or ten days destroying all queen-cells, return the queen, when the bees are expected to go at once into the sections, and no further trouble results. While this plan does not always work as expected, yet I have had good success with it in some years. Where queens are kept for this purpose a small, round, wire-cloth cage is as good as anything, the same containing the queen being slipt between the bottom of the comb and the bottom-bar to the frame, where the bees have left some open space. There is no need of provisioning this cage, for the bees will supply all the wants of their mother, by feeding her thru the meshes to the cage. When the cells are cut the queen is allowed her liberty again.

Onondaga Co., N. Y.

Black Brood in New York—Its Ravages.

BY P. W. STAHLMAN.

BLACK brood has practically knockt the props from under the bee-business in this locality, and the worst of it is, it is not over with yet. This disease is hard to fight, and seems to be almost incurable when once establisht in the apiary. No apiarist can work contentedly with his bees when he knows that this disease is present. I have fought it hard for two years, and my experience, as well as that of others, is that to get rid of it clean and clear is to quit the business until it has done its work of destroying all of the bees in the woods, and those of the slipshod bee-keepers of this State. My present views are that, until this comes to pass, black brood will spread (regardless of treatment), and will hold the fort. In all likelihood there will be some bees that will survive, but they will be in the hands of practical men in the business. Last season I helpt care for and handle over 400 colonies, and the result was that over one-half of them were destroyed, and a set of "blue" bee-keepers were left (I was one of them).

This season I had charge of over 100 colonies, and but few came thru free from disease. Some colonies were treated the second time in one season, and still the disease comes again in spite of all the starvation they may be made to endure, or all the medicated syrup that is fed. I say without hesitation, that the majority of colonies treated under any or all treatments given in the book of instructions on this disease will be found to have more or less of it within one year, as long as the disease reigns in a yard to any extent. Just how it spreads is yet to be learned. I can not understand its origin, but I fully understand its qualities in destroying bees and giving their operator "the blues." To tell all about it would require more time and paper than I can spare. "The half has never yet been told."

However, there is one strange thing about it, and it is this: Once in a while a certain colony can be surrounded by the disease and still not show any signs of it. I often see enquiries in the bee-papers from those wanting to know if their bees have the New York bee-disease, because they see a few dead bees about their hives, or lose a few colonies during the winter. To such I wish to say, Don't try to make yourself believe that your bees have black brood. When you find your bees going down, down, down, as if by magic, and upon opening a hive you are met with a nasty smell which you never smelled before, then begin to make examinations, and if you find dead brood in all stages, almost all colors from yellow to black (all thru the comb), of a jelly-like, or rather, mattery, appearance, with a sour smell; and if upon seeing all these conditions you feel your backbone and nerves begin to weaken, and your hopes blasted, then you may know there is something wrong; and in finding this you have my heartfelt sympathy, as you no doubt have black brood among your bees.

Beware of those unsealed, pointed larvæ; also some that have been sealed and turned brown, but not mattery. This is evidently a forerunner. At least I have so found it.

This season I cared for over 100 colonies of bees, fully three-fourths of which had to be treated for black brood—all hives to be disinfected, etc. In connection with this I raised artificially 700 ducklings, four or five hundred chicks, 41 goslings, and cared for 200 old fowls, all of which had to have their water supplied by muscle.

Our bees are now reduced to six colonies, which we propose to keep for honey for home use, and poultry must be the main thing the coming season, for my employer and myself.

From 36 colonies I secured 4,150 pounds of extracted honey. The season was too dry for bees. The spring opened fairly well, but the continuous drouth ruined clover, hence our only honey-flow was from buckwheat, which was a short crop. The outlook for next season is not flattering, as the clovers are practically killed by the drouth, and the forest-worms are ruining the basswood.

I expect to form "a union" of only two members early in November, and expect to be on a farm the coming year. I have kept two swarms of bees for seed and company, and for experiments on black brood. I regret that I can not follow bee-keeping extensively, but at present I don't feel thus inclined. I trust the disease will disappear soon, so we can safely keep bees again.

Albany Co., N. Y., Oct. 15.

The Golden System of Comb-Honey Production in 1900, and the Results.

BY J. S. HARTZELL.

AGAIN we are at the close of a honey harvest. Just what the successes and disappointments have been each must determine for himself. Reports upon the whole speak of a generally poor season. Some localities, however, were highly favored, and an abundant reward received for labor bestowed. Circumstances have been such that while I had determined that 1899 would be an ending of my apicultural experience, I was compelled to fight the battles of 1900, and with what success I will again report.

Before entering upon a summary of my crop report, I will say that perhaps too much is written concerning systems in practice for the production of honey, yet we have apostles in apiculture that, whatever is written or said by them concerning the management of bees, is accepted as a fact whether or not in real practice it is practical. When, however, a new apostle arose in a village in Morgan Co., Ohio, and portrayed thru the American Bee Journal in 1896 and since, a new construction of hive and management of the colony therein for the production of comb honey, the meager reports coming thru the various bee-papers, of success or failure achieved in the practice of that system, have led me to conclude that as it was in Christ's time thus it is to-day, and the inquiry goes forth, What good thing can come out of Nazareth? Yes, verily. But had some of the conceded bright lights in apiculture advanced the theory, long ere this many would have given it a trial and reported as to the success or failure achieved by its use.

However, every system in vogue has its adherents and advocates, whether religious or political, and in the agricultural field we find an abundant harvest of systems, hives, etc., to select from, each having its admirers and advocates, and I am one (possibly of only a few) who is glad to have it said he accepted and has since been practicing to considerable extent the theory promulgated by Mr. J. A. Golden. Four seasons' trial, and each season in increasing numbers, on any plan, should prove whether or not it is entitled to merit.

I have, as a specialist in the production of section honey, practiced to some extent double tiering of 8-frame hive-bodies, supers on top; also at the time of swarming caging the queen and placing her in a super over the broodnest, and cutting out queen-cells the sixth day and liberating the queen, but evidently there is much depending upon the construction of the hive, and I feel confident that Mr. Golden has given to the world the best hive extant for summer as well as winter management. I feel confident it will ultimately triumph over all opposition, and become as universal and popular as the Langstroth size of frame.

At present my apiary consists of 53 colonies in Golden hives, and 23 colonies in 8 and 10 frame dovetailed hives on the general plan. The results for the season of 1900 stand as follows:

The 53 colonies on the Golden plan yielded 1,266 sections of completed honey—an average of practically 23 4-5 sections per colony: 23 colonies on the general plan yielded 285 sections of completed honey—an average of practically 12⅓ sections per colony. This, my fellow bee-keepers, shows almost double in favor of the Golden plan.

I will just say, while making a report, that of sections not completed I made a selection of those nearest completion, filling seven supers, and extracted from others, and by feeding back succeeded in having six supers entirely completed, and the seventh mostly completed. The nights turning cool prevented feeding to complete the seventh super; and while succeeding in completing six supers, it was evidently at extra cost, as weight and measure were kept account of. These, however, are not accounted for on either plan, being only an effort on my part to test whether advisable to feed back to complete sections, and my verdict is no.

How many of the vast number of bee-keepers who may read this article will give the Golden plan a fair and impartial trial in 1901? And of those who have given it a trial during the season of 1900, will they please hand in their reports? I will be glad to hear, whether favorable or unfavorable, as it may have a great bearing on the possibility of inducing the incredulous to test a plan which, in my opinion, will count in dollars and cents to the man who adopts it.

Now, in order to verify my appreciation of the Golden system, I will make a proposition which will determine (if accepted) my earnest desire to better if possible the condition of the vast number of bee-keepers in our country. I would like, if possible, to induce Dr. C. C. Miller, A. I. Root, Eugene Secor, Dr. A. B. Mason, and Chas. Dadant—five all told, and who I believe are honorable men and unbiast—or any other five of equal merit provided these gentlemen decline, and whoever the editor of the American Bee Journal may deem competent (as there are so many worthy ones) to accept the following terms: Secure from Mr. Golden next spring a complete hive with full instructions as to the management of a colony when placed therein, and give equal opportunities with other colonies. Place a good colony in the hive, and at the close of the season, if it proves unsatisfactory (after having followed instructions closely), ship the empty hive complete to me, by freight, and I will refund the cost of the hive and pay the freight. Is this fair? And will the proposition be accepted? Thus you can determine my unbounded confidence in the Golden system for the production of comb honey, after an experience with it for four successive seasons.

Mr. C. S. Younkin, of this county, who I consider one of the best informed and practical men in apiculture in western Pennsylvania, has determined, after the results achieved during the season just closed, that he will fully test Golden's system during 1901, and I am rejoiced that he will, as he is fully competent to decide the merits of any system when tested by him.

In conclusion, it just comes to mind that the worthy late critic of the Bee-Keepers' Review, Mr. R. L. Taylor, doubted my report as given in the American Bee Journal in 1898 (and possibly may doubt the one given herewith for the season of 1900). But I want to assure him they are *facts*, and cordially extend to Mr. Taylor an opportunity to test the Golden method, according to the same terms named to the other gentlemen, and I hope the proposition will be accepted.

No. 5.—Interesting Notes on European Travel.

BY C. P. DADANT.

WHILE traveling the short distance between Interlaken and the famous Rigi, I saw a number of apiaries, and this called my attention to the notable difference in the hives used in the various countries of Europe since the introduction of the movable frames has become general.

The adoption of hives of modern styles was evidently made in each country according to the information brought to the public by the different specialists or inventors. The Germans, who were the first to set aside the old straw skeps in practical bee-keeping, are also, in my opinion, at the present time the farthest behind as to the practicability of their hives. Berlepsch and Dzierzon were their leaders, and their hives are still in use. The Berlepsch hive, invented and popularized over 50 years ago, is very inconvenient, for it has no movable top, but opens from the rear like a closet, and the frames have to be drawn out backward. But as it was so very much ahead of the old straw skep, it was easily introduced, and its use is still continued in many apiaries of Germany. The Dzierzon hive is very elementary, having only movable top-bars instead of frames, so that when you wish to remove the combs you must cut them away from the ends.

The French apiarists have taken to half a dozen different styles, among which the DeLayens is probably the most conspicuous. This hive has frames very similar to the King-American frames, from 20 to 24 in number, and no supers. They extract the honey from the side combs of the hive. As a matter of course it is possible to fit supers upon this hive, but it is then found to be too large in the lower story.

They also use the Sagot hive—a hive very similar to the Langstroth, and which was invented by L'Abbe Sagot, years ago, almost simultaneously with the Langstroth invention, but was not put before the public until later. One drawback of this hive is the shape of its supers, which are triangular, and give but little room for surplus. The pound section could not be fitted upon it unless an additional half-story was added.

They have also the Voirnot hive, and the hive introduced by my father, which is, as the reader knows, a modification of the Langstroth hive, with large Quinby frames, and is known over there as the Dadant hive. In Switzerland this hive is almost exclusively used, so I found our name very familiar to every bee-keeper whom I met, and in two or three instances I found myself literally hugged with the greatest enthusiasm at the simple mention of my name, by people who had never seen me before.

One of these apiaries I found on the shores of the Lake of Sarnen, a small body of water just beyond the Brunig pass, and which deserves more than a passing notice, owing to the crystalline appearance of its surface. Its waters are very clear, and as it lies between two very steep hills, there is but little breeze to mar its smoothness, and every hill, every tree, every house, was mirrored to perfection when we saw it. It ought to be called "Mirror Lake."

This lake, we were told, was lowered 100 feet by artificial means, to increase the area of tillable land. It appears that it was originally formed by the tumbling of a portion of a hill—probably thru an avalanche—across the valley. The wall thus formed, not being of very great width, it was found possible to bore thru and lower the depth of the lake, the land so reclaimed being of great utility as pasture and meadows. In these thickly settled countries they do not waste land surface as we do here. The railroad embankments are kept in grass, no matter how steep they be, and this is carefully mowed and stowed away twice in the season, and in many places we saw vegetable gardening, cabbages, potatoes, etc., clear up to the edge of the railroad ballast, along the track. I imagine that if those people saw our prairie public roads, four rods wide, with the little beaten track in the middle, and a strip of weeds on both sides, they would wonder at our wastefulness.

That same day we ascended the far-famed Rigi, the fashionable mountain from which you command a view of 300 miles in circumference, providing it is not cloudy; but as clouds always form around those mountains, a clear sky is an exception. Here I had the pleasure of seeing a cloud form under our feet, from an almost invisible little smoky spot, to a mist that covered everything below us. I do not know whether many are like myself, but I had never thought of enquiring as to the formation of clouds. While the passing of clouds over my head was a matter of daily notice, it had always seemed to me that they must come from somewhere else, for I could not imagine how they should form. But here was the thing in practice, in plain view; a clear sky, a half dozen beautiful lakes below, with villages, orchards, roads, all so straight below us that it seemed as if we could throw a pebble on the roofs of the houses, then in a few seconds two currents of air coming in contact from different directions, one cold, the other hot and moist, a sudden whirl and the condensation of invisible to visible moisture is instantaneous; the beautiful view is hidden under an opaque cloud. But in another minute the cloud blows away, the sun again shines, to be hidden again in the same manner a little later.

I enjoyed the ascent of the Rigi, but after an afternoon and a night there I was still gladder to leave it. It would not suit me to live above the clouds. We staid over night to see the sun rise, and were awakened at break of day by the Alpine horn. We hurried from the big, cold, moldy-smelling hotel to the top of the peak with the hundreds of tourists, in the raw morning air; we admired the numerous snow-capt peaks that glistened in the south like the waves of the sea, but were glad to get back to the warmth of an August forenoon by the first train we could take for Lucerne, and it was with pleasure that we saw our car slowly descend from those dizzy heights to the level of the cities below. Better live 600 than 6,000 feet above sea-level.

Back to Geneva we returned the following day. Up hills down ravines and thru tunnels, these Swiss railroads never seem to be on a level; but the sights are always interesting, and not the least is the view when just out of the last tunnel coming back to the beautiful lake of Geneva. The sudden change from the steep meadows, abrupt hills and pine forests to the splendid vine-clad slopes and the busy shores of that wonderful lake, is striking.

That same evening we landed at Nyon, where the pleasant face of Mr. Bertrand, the editor of the Revue Internationale, was readily recognized by us at the station. He had a carriage in waiting, and inside of a half hour we were literally "at home," enjoying a chat with him and his devoted wife.

Mr. Bertrand's health has been quite poor for a number of years, and it was a happy surprise to find him quite a younger looking man than his last picture had led us to believe, and as active as any man of his years, for, if I remember rightly, he is 65 or 66 years old.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Out-Apiaries—Draper Barns—Plain Sections.

1. How do you run your out-apiary for comb honey? Do you hire experienced help?

2. What salary should a young man be paid who has some knowledge of bee-keeping?

3. How did bees in your Draper barns do the past summer?

4. What about the plain sections? I don't like them because they are so light in weight, and on account of the bur-combs on the fences. Hurrah for the old-style sections! Long may they stay on the market. ILLINOIS.

ANSWERS.—1. Just the same as the home apiary. Two of us go to the out-apiaries as regularly as we can, and do the same work we do in the home apiary. We can hardly be said to have an establisht plan, and are all the time on the lookout for something better. If you strike on something good, by all means let us have it.

2. So many things must be taken into account, and circumstances vary so much that it would be impossible to give an answer to fit all cases. "Some knowledge of bee-keeping" might be so little that a young man might not earn his board with an experienced bee-keeper: and it might be so much that he could earn $50 or more per month taking care of an apiary whose owner had no knowledge of bees.

3. They didn't average any better than others.

4. It seems hard to get the plain sections settled down to any uniform basis. As at the first, some like them very much, while others will have none of them.

◆

How to Transfer Bees.

This fall I got one colony of bees in a lime-barrel. I would like to know the best way to transfer them to a frame hive. IOWA.

ANSWER.—Transferring from a lime-barrel does not differ materially from transferring from a box-hive, and so you will be all right to follow the instructions in your text-book for transferring from box-hives. Very likely, however, you may prefer a plan which is growing in favor, and that is to wait till the colony swarms before any transferring is done. If the colony is in a whole barrel, it is not likely that the whole barrel is filled with comb, and you will do well in the spring to saw off the lower end of the barrel which is empty. If you should saw off so much that it would take off some of the lower edges of the combs it will do no harm. If you leave the whole of the barrel, the bees might swarm quite late, if at all. When the colony swarms, hive the swarm in a frame hive, and set the new hive on the old stand, setting the barrel close beside it. A week later remove the barrel to an entirely new place. Two weeks later still—that is, three weeks after the time of swarming—drive out what bees remain in the barrel, uniting them with the swarm, and then you can melt up the old combs, which will be bare of worker brood, unless you prefer to fasten some of the straight worker-brood in frames. If, however, you prefer increase to honey, you may proceed in a different way. When the colony swarms, leave the barrel on the old stand, and put in a new place the hive with the swarm. If an after-swarm issues from the barrel, you can hive that, if you care to have weak colonies, but the better way is to return the after-swarm as often as it issues. Then three weeks after the time of the first swarm, transfer the contents of the barrel into a frame hive.

The American Fruit and Vegetable Journal is just what its name indicates. Tells all about growing fruits and vegetables. It is a fine monthly, at 50 cents a year. We can mail you a free sample copy of it, if you ask for it. We club it with the American Bee Journal—both for $1.10.

❊ The Afterthought. ❊

The "Old Reliable" seen thru New and Unreliable Glasses.
By E. E. HASTY, Richards, Ohio.

OATS CHAFF FOR BEE-HIVE CHICKENS.

Stick a good-sized pin right here. Oats chaff is used to fill the cushions with which J. G. Norton hatches bee-hive chickens. Oats chaff and wheat chaff are practically very different substances. Where ventilation thru the cushion is desired wheat chaff is much the better; but so long as perfectly dry (a condition rather hard to maintain) oats chaff is much the warmer. Page 637.

WAKING UP BEES IN WINTER.

H. D. Burrell, page 646, does not think much of pounding on hives in winter to wake the bees up. No more do the most of us. Still, there seems to be need for them to arouse once in a while and readjust things; and if we knew all about their needs, and also knew in advance what the weather was going to be, we *might* time these periods of winter activity so that the expenditure of vitality would be less than it is. It is quite possible that the warming up of the hive is costly, even when bees do it at their own option.

MASSING DRONES IN A QUEENLESS COLONY.

Anent the subject of massing drones in a queenless colony for fall queen-rearing, I would like to put in a special remark. Right here may lie a very important advantage of rearing queens in the fall. In the swarming season I should feel pretty sure that drones from such a drone boarding-house would mate very few of the queens—more normally placed drones getting the start of them in nearly every instance; but (with some untoward exceptions, owing to conditions one can't get at) the selected drones would in the fall *actually mate the queens*, I presume. To go thru a lot of wise fuss and fixing, and to plume ourselves with the idea that we have accomplisht something, is an uncommendable sort of bliss unless we *have* accomplisht something. Page 648.

BREEZY HILLS NOT ALWAYS BREEZY.

And so Mr. Roebling thinks that on the top of a breezy hill hives have less need of shade. Probably that's so, to some extent. But even breezy hills do not always have breeze. The most injurious of "tan-toasters" come with a dead calm, do they not? Page 648.

THE ANTI-QUEEN-CLIPPING SENTIMENT.

The editor and Dr. Miller are sensible about the clipt premiums—and yet they don't *feel* for the agonies of one class of their helpless patrons quite as much as they might. I, being an anti-clipper myself, can take them right to my bosom. Sentiment is quite a word to conjure with; and, seriously, do we want man to be without sentiment? A new dolly with one leg torn off; a painting for the best light in the parlor with a hole puncht thru the canvas; a bicycle (style of 1901) with but half a handle on one side; the present of a riding pony, and he blind in one eye; what human can feel, or ought to feel, fully enthusiastic over these serviceable but provoking treasures? If we delight in the enthusiasm of beginners, and we do, why step on and crush even the littlest of their sentimental little toes. If a subscriber is willing to say, "Send my queen without clipping, and I'll never, never, never even say peep, no matter what ensues," why, then, it looks as tho he might, without very much expense, be granted the boon he craves. Page 649.

HONEY-FLORA AREA FOR A COLONY.

On page 659 the editorial off-hand that 100 acres are required for each colony of bees is not bad; yet some blundering bee-boys will go straight and forget the *reason* why it takes so much. In the average location a great percentage of its acres furnishes nothing for bees; and another great slice only a trifling amount for a few weeks. The 100 acres for 150 colonies would not be wild if all the ground was fully set with the proper assortment of plants. Mr. Doolittle's claim that bees work 4½ miles away from choice would probably be met by a lot of practical men claiming that from *choice* bees keep inside of a half mile. Without much assurance, I rather think that the truth lies between these two extremes, and that the reason that bees seem sometimes to prefer near-by locations is that they have not *found* the more remote ones yet. The reason why a long flight is sometimes more profitable than a short one is, that it gives opportunity for both evaporation and ejection of water from the nectar. And several kinds of forage (when yielding at best) give the bees no compulsion to fly while loading up, each flower or cluster holding more than a load. Whitewood and yucca are notable instances of this; and probably basswood sometimes comes near it.

A BOY'S HEAD A DANGEROUS SWARM-CATCHER.

That Austrian swarm-story, on page 660, is both shocking and pestilent. It would be wicked foolishness to encourage a boy to let a swarm cluster on his head, and murderous nonsense to begin operations by drenching the bees with water. A swarm, so long as it is warm and dry, can be deftly coaxt to crawl away; but a mass of soakt bees will not crawl a step. I think those kind-hearted folks who always rescue drowning bees at water-tubs can testify that wet bees *sometimes* sting if you rescue them with your finger. Still, if the boy's hair was cut so short that no bee could possibly crawl into it, the incident *might* have been a real one. "Bees do nothing invariably."

NO POLLEN IN ORDINARY FINISHT HONEY.

I think Mr. Taylor, page 661, to be totally wrong in intimating that bees get pollen into honey outside the combs. If he will mix pollen and honey half and half, and give it to bees in an open-air feeder—well, I never tried it, but I *think* pretty strongly—I think he wouldn't be able to find with a microscope one single grain of pollen in the resultant, after it had been carried home and placed *in a new and perfectly clean cell.* I once bought a costly microscope on purpose to be able to tell *for sure* the source of my different kinds of honey—and the thing was an utter failure, just because ordinary finisht honey has no pollen-grains in it.

KILLING OLD BEES AND WINTERING YOUNG ONES.

The gruesome plan of killing the old bees in the fall and wintering only the young ones ought to be proved profitable by a good many different experimenters before it is recommended for general practice. Page 661.

MR. ABBOTT'S FUMIGATING COMPOUND.

Sulphur one-half, and nitrate of soda and black oxide of manganese each one-quarter—Mr. Abbott's worm-killing compound. Burns all up with a rush, and then puts out any fire that may be left with its own fumes. This is handy apparently, and presumably valuable. Scarce a corner of our craft can be named which has been so scandalously in need of a little invention as the burning of sulphur. Page 662.

EXTRACTING-HOUSE ON WHEELS.

The extracting-house of Mr. Mottaz, page 664, seems to be one of those "other ways" to do things which we do not often hear of. Have a nice extracting-house built on wheels, and haul it to out-yards like a photographer's gallery. Not a bad way. But it seems to me that some of the boys will do it, and have the outfit weigh less than 3,300 pounds.

FAILURES WITH CARDBOARD INTRODUCING.

The failures of bees to tear cardboard from a cage seem to be coming in freely; and my apprehensions in that regard seem likely to be justified (longer phrase for "told you so").

BLEACHING COMB HONEY BY SUNSHINE.

The bleaching of comb honey, tho at first not considered practical by theorists, threatens a little to become a generally adopted manipulation. L. J. Crombie's bleaching-house, illustrated on page 668, seems very well adapted to the purpose. Pleasant to be told by one who has tried it, "You will find you can bleach the darkest comb." Perhaps the cloth awnings and open gables would not be imperative where the sun is less fierce than in California; but it is better to be on the safe side than to have a big lot of honey melted. Well to remember the deceptive character of sunlight which he speaks of—making one think his sections are done when they are not. I would query whether it is sunlight or *heat* that does that—warm wax looks lighter than cold. Mercy on one's own lungs and health would suggest one improvement. Have a sectional big box close by the door, but outside the house, to do the sulphuring in. It doesn't pay to save steps by knocking days off the end of one's life.

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GENERAL ITEMS

Succeeding with Bees.

I started in the bee-business 2 years ago with 5 colonies. I increast to 11 last year, and this year to 22. I secured about 2,000 pounds of extracted honey and 200 pounds of comb, and made money. I sold out in September, but still want the American Bee Journal, which affords me great pleasure, as well as instruction. I am very fond of honey. JOEL A. MOSS.
Missoula Co., Mont., Oct. 29.

Honey for the Pan-American.

I have 100 colonies of bees, and secured this season 300 gallons of extracted honey and 400 pounds of comb. I took some of it to the State Fair and was awarded every premium that was offered on honey. I think I will take some to the Pan-American Exposition at Buffalo, N. Y., next year.

I don't think that I could do without the American Bee Journal.

J. M. HAGOOD.
Delta Co., Texas, Oct. 29.

Rendering Old Combs into Beeswax.

What is the best method of rendering old brood-combs into wax (combs 15 years old), so as to get the most wax with the least work? Or, would it pay better to burn them? Perhaps G. M. Doolittle will give a good answer.

Macon Co., Ill. FRANK BAKER.

[Upon request, Mr. Doolittle kindly responds to the above as follows:—EDITOR.]

Some zero morning, or nearly as cold, put those old combs into a bag or cloth sack, two or three at a time, and then tread on the sack with the feet, or whip the sack around the corner of some building till the comb is all broken into fragments. Then treat more the same way till all are broken. Now put the broken comb into a sack made of burlap, or some other openly

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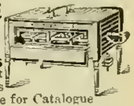

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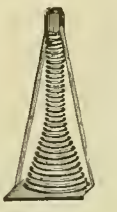

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woven cloth, putting sack and all into a kettle having boiling water in it. As the water boils, work the sack with an old hoe, and see how the wax will rise. Work till you are satisfied the wax is all out; or if you have a press of any kind, you can press the sack of refuse at the finish, but with me the hoe will work out 95 percent. If you have more than the sack will hold at first, you can untie and fill in more as it works down in the boiling water.

Never burn up any comb of any kind, unless your labor is worth more than $5.00 a day. And if it is hire some $1.50 a day laborer to get out the wax, and save the $3.50 as your profit. Of course, wax and old combs will make a good fire, but such a fire would be rather expensive. I have heard of persons rolling up $5.00 bills and lighting cigars with the flame from them while burning, but I think a match would be preferable. And I also prefer good wood and coal for fuel for my stoves, to that of using old bee-combs.—G. M. Doolittle.

Bees Did Poorly.

My bees did poorly this season, and I expect to have to feed them. I think the weather has been too wet. Basswood was in full bloom when a heavy rain came and washt the honey all out of the flowers. The same thing hap-

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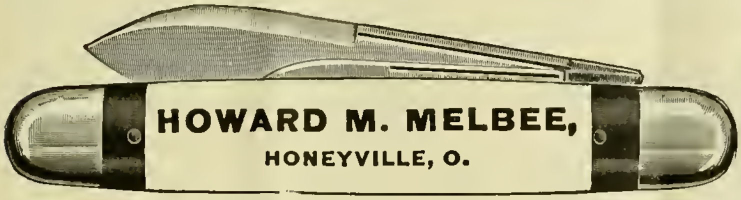

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Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and in case of death, your relatives will at once be notified of the accident.

How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

How to Get this Valuable Knife.—We send it postpaid for $1.25, or give it as a Premium to the one sending us THREE NEW SUBSCRIBERS to the Bee Journal (with $3.00.) We will club the Novelty Knife and the Bee Journal for one year, both for $1.90.

GEORGE W. YORK & CO., 118 Mich. St., Chicago, Ill.

☞Please allow about two weeks for your knife order to be filled.

PATENT WIRED COMB FOUNDATION
Has no Sag in Brood-Frames.
Thin Flat-Bottom Foundation
Has no Fishbone in the Surplus Honey.
Being the cleanest is usually workt the quickest of any foundation made.
J. A. VAN DEUSEN,
Sole Manufacturer,
Sprout Brook, Montgomery Co., N.Y.

The EASIEST TO RUN
because they have the best system of regulating temperature and moisture.
MARILLA Incubators & Brooders
Hot Air or Hot Water. Money back if you want it. Absolutely safe. Durably built. Catalog for 2c.
MARILLA INCUBATOR CO., Box 31 Rose Hill, N.Y.
Please mention Bee Journal when writing.

For Sale 15 colonies of bees in good chaff hives; also a good farm.
46A3t ALBERT BAXTER, Muskegon, Mich.

pened to buckwheat and all the rest of the honey-plants. All the honey the bees secured was from white and red clover, in July.

I have found 3 bee-trees, but there wasn't a good mess of honey in them. There were ants in one nearly as big as bees, and I suppose they ate the honey as fast as the bees stored it. I took some of the bees home, and they have stored about 10 pounds of honey since Aug. 15.

I expect to winter 4 colonies, and hope to have better luck next year.

B. F. SCHMIDT.

Clayton Co., Iowa, Oct. 29.

Working Bees on Shares.

I came across a lot of bees the other day—about 30 colonies—in a blue-thistle and basswood section along the Potomac River. They were in box-hives, and had never had any attention. The people who own them want me to work for the half of them, pay me for new hives, and bear half of the expense after paying for the hives. I expect to go to look after them in a day or two. They say that there is a great deal of honey in the hives, but they are afraid of the bees, so have not taken any off this season, and if I take it off I am to have half of it.

L. A. HAMMOND.

Washington Co., Md., Nov. 6.

Two Girl Bee-Keepers.

I am a little girl only 13 years old, and live on a farm away out here in Washington. My younger sister and I have one strong colony of bees which we found in an old hollow log a year ago. We put them into an old box and brought them home. We got a neighbor to make us a hive, which is 13x20 inches, 2 story, with 7 frames below and 6 above, put in crosswise.

I want to tell what those bees did the past summer. They started in last

We Can't Give Away Anything

You pay for what you get in this world. You understand that. But as a business proposition we want you to try our great medicine for Indigestion, Constipation, Biliousness, Sick Headache, Insomnia, "the Blues," and like complaints—

Laxative NERVO-VITAL Tablets

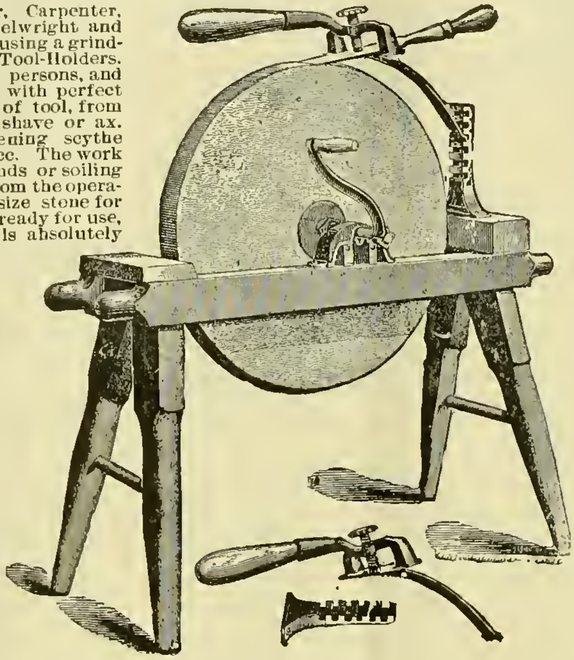
We know you won't buy it, until you know something about it. The best way to get you to know how good it is, is to let you try it. That's what we do. Send Stamp for "Health" booklet, and we will send you a free sample package, that you may try it yourself. We know you will always keep it in the house, if you once try it. What fairer offer could we make? At all Druggists—10 and 25 cents.

Handsome Stick Pin FREE!

If, instead of sending for a sample, you send us 25c we will send you "Health" booklet, a 25c box and a handsome gold stick-pin, set with emerald, ruby or pearl, warranted to be worth double the money. Order by number. This is an extra introductory offer. Only one pin to one person. If unsatisfactory, money returned. Send now while the offer is good.

MODERN REMEDY COMPANY, KEWANEE, ILLINOIS.

[This company will do exactly as it promises.—Editors.]



A HANDY TOOL-HOLDER!

Sent by Express, for $1.50; or with the Bee Journal one year—both for $2.00.

Every Manufacturer, Miller, Carpenter, Cabinet Maker, Machinist. Wheelwright and Quarryman, Farmer, or any one using a grindstone, should have one of these Tool-Holders. One boy can do the work of two persons, and grind much faster, easier and with perfect accuracy. Will hold any kind of tool, from the smallest chisel to a draw shave or ax. Extra attachment for sharpening scythe blades included in the above price. The work is done without wetting the hands or soiling the clothes, as the water flows from the operator. It can be attached to any size stone for hand or steam power, is always ready for use, nothing to get out of order, and is absolutely worth **100 times its cost.**

No farm is well-equipped unless it has a Tool-Holder. Pays for itself in a short time.

How to Use the Holder.

Directions.—The Tool is fastened securely in the Holder by a set-screw and can be ground to any desired bevel by inserting the arm of the Holder into a higher or lower notch of the standard. While turning the crank with the right hand, the left rests on an steadies the Holder; the Tool is moved to the right or left across the stone, or examined while grinding, as readily and in the same way as if held in the hands.

For grinding **Round - Edge Tools,** the holes in the standard are used instead of the notches.

GEORGE W. YORK & CO.
118 Michigan Street, CHICAGO, ILL.

BEES QUEENS
Smokers, Sections, Comb Foundation
And all Apiarian Supplies cheap. Send for FREE Catalogue. E. T. FLANAGAN, Belleville, Ill.
Please mention Bee Journal when writing.

FREE FOR A MONTH....

If you are interested in Sheep in any way you cannot afford to be without the best Sheep Paper publisht in the United States.

Wool Markets and Sheep

has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.

WOOL MARKETS AND SHEEP, CHICAGO, ILL.
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ELECTRIC HANDY WAGONS
excel in quality, strength, durability. Carry 4000 lbs. They are Low priced but not cheap.
Electric Steel Wheels—straight or staggered oval spokes. Any height, any width of tire to fit any wagon. Catalogue FREE.
ELECTRIC WHEEL CO., Box 16. Quincy, Ills.

BEE-SUPPLIES.

Muth's Square Glass Honey-Jars.
Send for Catalog.

HONEY AND BEESWAX WANTED.
C. H. W. WEBER,
42Atf 2146 Central Ave., Cincinnati, Ohio.
Please mention Bee Journal when writing.

The Fannie Field Poultry Pamphlets Cheap.

We will mail you your choice of any of the following 64-page poultry pamphlets at 10 cents each, or all 3 for only 25 cents—while they last:

POULTRY FOR MARKET.—It is written for those who wish to make poultry-raising profitable.

CAPONS AND CAPONIZING.—It shows in clear language and by illustrations all the particulars about caponizing fowls, and thus how to make the most money out of them. Every up-to-date poultry-keeper should have it.

OUR POULTRY DOCTOR, or, Health in the Poultry Yard, and How to Cure Sick Fowls. All about poultry diseases and their cure.

Remember, we mail the above at 10 cents each, or all three for 25 cents; or for $1.10 we will mail the three pamphlets and credit your subscription to the American Bee Journal for one year. Address,

GEORGE W. YORK & CO.,
118 Michigan Street, CHICAGO, ILL.

spring without any starters or anything. They just filled that hive plump full of honey. By the first of August we took out two frames of honey, and one of them was 3 inches thick and weighed 8 pounds. Of course, our frames were too far apart, but we have just sent for 3 new hives, 2-story, complete for comb honey. So you see we will be all right for next summer, if we don't lose the bees this winter.

We now have the hive in a large box. First we took a box about 3 feet square—nailed a couple of 2x6 for it to rest on, then we set the hive in it, fixt the entrance, and packt the sides with chaff, then bankt up around with earth. We are going to put cushions on top of the upper story, and finish packing the box when it gets colder.

There was a bee-man here this summer who said my bees were hybrids, so I want to get a good Italian queen in the spring, and divide them, and then replace the old queen with another in July. How should I proceed in dividing next spring? If I put a new queen in the old hive will they swarm or not in the spring?

Adnah and Alice Yount.
Spokane, Wash., Nov. 7.

[You will find full directions in the bee-book which we have just mailed you, both for introducing queens and dividing. If after reading the book carefully, you don't understand fully, then send on your questions and they will be answered in the Bee Journal.—Editor.]

Introducing Queens.

We hear some complaints with the new pasteboard feature. I believe there must have been something wrong with the cages that failed to work. Were the perforations in the pasteboard cut out clear? And did the candy come clear out to the pasteboard, thru the hole intended for the cork? This, I think, is *very* important. If the bees once get a taste of the candy thru the pasteboard, they are then determined to get it all, and will tear away the paper.

I think by lengthening the cage and making the cork-hole twice as long, and filling it (the hole) with candy, would work nicely if we remove the pasteboard entirely. It would certainly take the bees several hours longer to release the queen than by the cork method.

A. E. Willcutt.
Hampshire Co., Mass.

Two Years of Failure.

I have had two years of failure with bees, and this year I got only 23 pounds of honey from 28 colonies.

Fulton Co., Ind. Samuel Rickel.

Sharples Cream Separators: Profitable Dairying

FOR SALE!
Best Extracted Alfalfa Honey

Guaranteed absolutely Pure Bees' Honey. Packt in 5-gallon tin cans, of about 60 pounds each, two cans to the case, 7½ cents per pound, cash with order. Buy direct from the home of Alfalfa. We can please you. Headquarters for ALFALFA and SWEET CLOVER SEED. Write for prices. **Vogeler-Wiedemann Co.,**
60-62 W. First So. St., Salt Lake City, Utah.
43Atf Please mention the Bee Journal.

CONVENTION NOTICES.

Minnesota.—The 12th annual meeting of the Minnesota Bee-Keepers' Association will be held in Plymouth Church, cor. 8th Street and Nicollet Ave., Minneapolis, Minn., Wednesday, Thursday and Friday, Dec. 5, 6, and 7, 1900. An excellent program is prepared and a good time promist. The Horticultural Society meets at the same time and place. Purchase railroad tickets to their society, taking a certificate for the amount paid, and if 100 certificates are secured a reduction to one-third fare for the return trip can be had.

Dr. L. D. Leonard, Sec.
Syndicate Block, Minneapolis, Minn.

Ontario, Canada.—The annual meeting of the Ontario Bee-Keepers' Association will be held at Niagara Falls, Ont., Dec. 4, 5, 6, next. There is a very good program arranged, and we feel confident there will be a pleasant and profitable meeting. A hearty invitation is extended to all bee-keepers to attend, and we hope to have many of the United States bee-keepers present.

Streetsville, Ont. W. Couse, Sec.

Belgian Hare Guide AND DIRECTORY OF BREEDERS. Price 25c
Inland Poultry Journal Co., Indianapolis, Ind.
Please mention Bee Journal when writing.

YELLOW OR WHITE
Sweet Clover Seed
—FREE AS A PREMIUM—
For Sending us One New Subscriber for a Year.

There has been so much written about both the white and the yellow variety of sweet clover, that we will simply say here that if one of our present regular subscribers will send us $1 with a new name for next year (1901), we will send the new subscriber the balance of this year's (1900) numbers free, and mail, postpaid, to the one sending the new name and the dollar, either **one pound** of yellow sweet clover seed, or **two** pounds of the white sweet clover. This is a good chance to get a start of both kinds of these honey clovers. Better send two new subscribers (with $2.00) and get the three pounds of seed. Address,

GEORGE W. YORK & CO.
118 Michigan Street, - CHICAGO, ILL.

DR. PEIRO,
34 Central Music Hall, CHICAGO.

Please mention Bee Journal when writing.

The Emerson Binder

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

GEORGE W. YORK & CO.,
118 Michigan Street, CHICAGO, ILL

—DO YOU WANT A—
High Grade of Italian Queens
OR A CHOICE STRAWBERRY?
Send for descriptive price-list.
D. J. BLOCHER, Pearl City, Ill.
47A26t Mention the American Bee Journal.

Langstroth on... The Honey-Bee

Revised by Dadant—1899 Edition.

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains over 500 pages, being revised by those large, practical bee-keepers, so well-known to all the readers of the American Bee Journal—Chas. Dadant & Son. Each subject is clearly and thoroly explained, so that by following the instructions of this book one cannot fail to be wonderfully helpt on the way to success with bees.

The book we mail for $1.25, or club it with the American Bee Journal for one year—both for $1.75; or, we will mail it as a premium for sending us THREE NEW subscribers to the Bee Journal for one year, with $3.00.

This is a splendid chance to get a grand bee-book for a very little money or work.

GEORGE W. YORK & CO.
118 Michigan Street, - CHICAGO, ILL.

DITTMER'S FOUNDATION Wholesale and Retail

This foundation is made by an absolutely non-dipping process, thereby producing a perfectly clear and pliable foundation that retains the odor and color of beeswax, and is free from dirt.

Working wax into foundation for cash, a specialty. Write for samples and prices.

A full line of Supplies at the very lowest prices, and in any quantity. Best quality and prompt shipment. Send for large, illustrated catalog.

GUS. DITTMER, Augusta, Wis.
Beeswax Wanted.
Please mention Bee Journal when writing.

HONEY AND BEESWAX

MARKET QUOTATIONS.

Chicago, Nov. 8.—There is a demand for fancy white comb honey at 16c that takes all of this grade upon arrival; other grades are less active, with No. 1 white at 15c; amber and travel-stained white ranges from 13@14c, with dark amber and buckwheat comb 10@12c. Extracted, white, 7½@8c; amber, 7@7½c; dark grades, including buckwheat, 6½@6¾c. Beeswax, 28c. R. A. Burnett & Co.

Kansas City, Oct. 25.—Fancy white comb, 14@15c; receipts light; amber, 13@14c; dark amber, 9@11c; slow sale. Beeswax, 24@25c; fair demand; light receipts.

W. R. Cromwell Produce Co.,
Successors to C. C. Clemons & Co.

Buffalo, Nov. 8.—The high prices attract increast receipts, but fancy white comb is sustained and active at 17@18c; fair to good, 14@15; buckwheat, etc., 11@12c. Supplies here are moderate. All small lots. Extracted is selling some better. Fancy, 8@9c; common would sell at less. Beeswax, 25@30c. Batterson & Co.

Albany, N.Y., Nov. 10.—Best white comb, 16@17c; good, 15@16c; mixt, 14@15c; best buckwheat, 13@14c; good, 12@13c. Best white extracted, 9@9½c; mixt, 7½@8½c; buckwheat, 6@6½c.

The honey market holds firm here; receipts light and but little stock on hand.

H. R. Wright.

Boston, Nov. 9.—Our market on honey continues strong, with light receipts. Fancy one-pound cartons, 17c; A No. 1, 15@16c; No. 1, 15c; No. 2, 12@13c. Extracted from 7½@8½ cents, according to quality. Beeswax steady at 25@27c.

Blake, Scott & Lee.

Cincinnati, Sept. 21.—The demand for fancy comb honey is good and finds ready sale at 16@16½c; No. 1, 15c. The demand for extracted honey at present is slow and offer same by the barrel as follows: White clover, 8½@9c; Southern, 6½@7½c; Florida, 7@8 cents, according to quality. Beeswax, 27c.

The above are my selling prices. I do not handle any honey on commission, but pay spot cash on delivery. C. H. W. Weber.

New York, Oct. 19.—During the past two weeks, receipts of comb honey have been quite extensive, several carloads of California and Nevada honey having arrived, and some large shipments of buckwheat, and for the present there is plenty of supply to meet the demand. We quote: Fancy white comb, 15@16c; No. 1, white, 14@14½c; fancy amber, 12½@13c; amber, 11@12c; buckwheat, 10@11c.

There are no new features in regard to extracted honey. The demand is fair at unchanged quotations. Beeswax dull at 27c.

Hildreth & Segelken.

Detroit, Nov. 12—Fancy white comb, 15@16c; No. 1, 13@14c; darker grades, 10½@11c. Extracted, white clover, 8½c; light amber, 7½c; darker grades, 6@6½c. Beeswax, 26@28c.

M. H. Hunt & Son.

San Francisco, Nov. 7.—White comb, 13@14 cents; amber, 11½@12½c; dark, 8@9c. Extracted, white, 7½@8c; light amber 6¾@7¼c; amber, 5½@6½c. Beeswax, 26@28c.

Owing to slim stocks, business in honey of all descriptions is of necessity restricted to very small compass. High-grade water white, either comb or extracted, is especially scarce. Previous quotations remain in force, with market firm at these figures.

A HONEY MARKET.—Don't think that your crop is too large or too small to interest us. We have bought and sold five carloads already this season, and want more. We pay spot cash. Address, giving quality, quantity and price,
Thos. C. Stanley & Son, Fairfield, Ill.

Wanted To Buy Honey
What have you to offer and at what price?
33Atf ED WILKINSON, Wilton, Wis.

FOR THANKSGIVING DAY
a rate of one fare and a third for the round trip has been authorized to points within 150 miles, on the Nickel Plate Road, Chicago Passenger Station, Van Buren St. and Pacific Ave., on the Loop. City Ticket Office, 111 Adams St. 38

We have a Large Stock on hand and can ship promptly.

SEND US YOUR ORDERS FOR

Hives, Extractors

OR ANYTHING YOU WANT IN THE BEE-KEEPING LINE.

WE MAKE ONLY THE BEST.

Our Falcon Sections and New Process Foundation are ahead of everything, and cost no more than other makes. New Catalog and copy of THE AMERICAN BEE-KEEPER free. Address,

THE W. T. FALCONER MFG. CO.,
JAMESTOWN, N. Y.

☞ W. M. GERRISH, East Notingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.

SWEET CLOVER

And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clcver (white)	60c	$1.00	$2.25	$4.00
Sweet Clover (yellow)	$1.50	2.80	6.25	12.00
Crimson Clover	70c	1.20	2.75	5.00
Alsike Clover	80c	1.50	3.50	6.50
White Clover	90c	1.70	3.75	6.50
Alfalfa Clover	80c	1.40	3.25	6.00

Prices subject to market changes.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

GEORGE W. YORK & CO.
118 Michigan Street, - CHICAGO, ILL.

☞ IF YOU WANT THE

BEE-BOOK

That covers the whole Apicultural Field more completely than any other publisht, send $1.25 to Prof. A. J. Cook, Claremont, Calif., for his

Bee-Keepers' Guide.

Liberal Discounts to the Trade.

CHEAP FARM LANDS

Located on the Illinois Central R.R. in

SOUTHERN ILLINOIS

And also located on the Yazoo & Mississippi Valley R.R. in the famous

YAZOO VALLEY

of Mississippi—specially adapted to the raising of

CORN AND HOGS.

Soil Richest IN THE World.

Write for Pamphlets and Maps.

E. P. SKENE, Land Commissioner,
Ill. Cent. R.R. Co., Park Row, Room 413,
24A24t CHICAGO, ILL.

Please mention Bee Journal when writing.

FALL SPECIALTIES

Shipping-Cases, Root's No-Drip; Five-Gallon Cans for extracted honey, Danz. Cartons for comb honey. Cash or trade for beeswax. Send for catalog. M. H. HUNT & SON, Bell Branch, Mich.

23rd Year Dadant's Foundation. 23rd Year

We guarantee satisfaction. ❊❊

What more can anybody do? BEAUTY, PURITY, FIRMNESS, No SAGGING, No LOSS.
PATENT WEED-PROCESS SHEETING.

Why does it sell so well? ❊❊

Because it has always given better satisfaction than any other.
Because in 23 years there have not been any complaints, but thousands of compliments.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

BEE-KEEPERS' SUPPLIES OF ALL KINDS.

Langstroth on the Honey-Bee, Revised

The Classic in Bee-Culture—Price, $1.25, by Mail.

Beeswax Wanted ❊ ❊ ❊

AT ALL TIMES.

CHAS. DADANT & SON,
Hamilton, Hancock Co., Ill.

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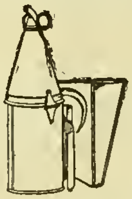
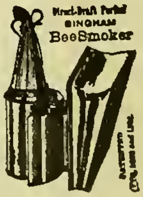
MADE TO ORDER.

Bingham Brass Smokers,





made of sheet-brass which does not rust or burn out should last a life-time. You need one, but they cost 25 cents more than tin of the same size. The little pen cut shows our brass hinge put on the three larger sizes.

No wonder Bingham's 4-inch Smoke Engine goes without puffing and does not

DROP INKY DROPS.

The perforated steel fire-grate has 381 holes to air the fuel and support the fire.

Prices: Heavy Tin Smoke Engine, four-inch Stove, per mail, $1.50; 3½-inch, $1.10; three-inch, $1.00; 2½-inch, 90 cents; two-inch, 65 cents.

BINGHAM SMOKERS

are the original, and have all the improvements, and have been the STANDARD OF EXCELLENCE for 22 years. Address, **T. F. BINGHAM, FARWELL, MICH.**

Please mention Bee Journal when writing.

One-Pound Square Honey-Jars,

$5.00 a gross; 5 gross, $4.80 per gross.

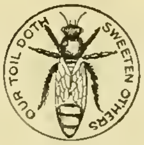
WINTER-CASES, 10 for $7.00. CARTONS—the best made.
Catalog of Apiarian Supplies and Queens free.

Apiaries—Glen Cove, L.I. **I. J. STRINGHAM, 105 Park Place, New York, N. Y.**

Please mention Bee Journal when writing.

Four Celluloid Queen-Buttons Free

AS A PREMIUM


OUR TOIL DOTH SWEETEN OTHERS

OUR TOIL DOTH SWEETEN OTHERS

For sending us ONE NEW SUBSCRIBER to the American Bee Journal for three months with 30 cents, we will mail you FOUR of these pretty buttons for wearing on the coat-lapel. (You can wear one and give the others to the children.) The queen has a golden tinge.

This offer is made only to our present regular subscribers.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate, it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

Prices of Buttons alone, postpaid: One button, 8 cts.; 2 buttons, 6 cts. each; 5 or more, 5 cts. each. (Stamps taken.) Address,

GEORGE W. YORK & CO., 118 Michigan St., CHICAGO.

AMERICAN BEE JOURNAL

GEORGE W. YORK,
Editor.

CHICAGO, ILL., NOVEMBER 29, 1900.

FORTIETH YEAR.
No. 48.

WEEKLY

MR. ED. BERTRAND,
Editor of the "Revue Internationale d'Apiculture,"
Nyon, Switzerland.

BEST

Extracted Honey For Sale

ALL IN 60-POUND TIN CANS.

ALFALFA HONEY *******

This is the famous White Extracted Honey gathered in the great Alfalfa regions of the Central West. It is a splendid honey, and nearly everybody who cares to eat honey at all can't get enough the Alfalfa extracted.

BASSWOOD HONEY *******

This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms in Wisconsin. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

Prices of Either Alfalfa or Basswood Honey:

A sample of either, by mail, 8 cents; samples of both, 15 cents—to pay for package and postage. By freight—one 60-pound can, 9½ cents per pound; two cans, 9 cents per pound; four or more cans, 8½ cents per pound. Cash must accompany each order. If ordering two or more cans you can have half of each kind of honey, if you so desire. The cans are boxt. This is all

ABSOLUTELY PURE BEES' HONEY,

The finest of their kinds produced in this country.

Read Dr. Miller's Testimony on Alfalfa Honey:

I've just sampled the honey you sent, and it's prime. Thank you. I feel that I'm something of a heretic, to sell several thousand pounds of honey of my own production and then buy honey of you for my own use. But however loyal one ought to be to the honey of his own region, there's no denying the fact that for use in any kind of hot drink, where one prefers the more wholesome honey to sugar, the very excellent quality of alfalfa honey I have received from you is better suited than the honeys of more markt flavor, according to my taste. C. C. MILLER.
McHenry Co., Ill.

Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

Address,
GEORGE W. YORK & CO., 118 Michigan St., Chicago, Ill.

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PUBLISHT WEEKLY BY
GEORGE W. YORK & Co.
118 Michigan St., Chicago, Ill.

*Entered at the Post-Office at Chicago as Second-Class Mail-Matter.

IMPORTANT NOTICES:

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40th YEAR. CHICAGO, ILL., NOVEMBER 29, 1900. No. 48.

✻ Editorial Comments. ✻

The Illinois State Convention was held last week at Springfield, and it was our pleasure to be present on Wednesday, the second day. While it was not largely attended, it was an interesting meeting. Mr. C. P. Dadant was present, besides Secretary Jas. A. Stone, Pres. J. Q. Smith, Treasurer Chas. Becker, and others.

The Illinois Association ought to have a larger membership. It offers a year's subscription to the American Bee Journal with a year's membership—all for only $1.00. Now, there ought to be fully 500 bee-keepers in Illinois who would accept this generous offer.

In order to save trouble to those who wish to take advantage of the foregoing offer, we will say that if you wish to send to us your dollar, instead of Secretary Stone, we will see that you get a receipt for your membership in the Association for 1901—that is, provided you send us all back subscription due (if any), and also $1.00 for 1901. By accepting this offer, you would not be entitled to any premium or be allowed to take advantage of any other offer we have made.

It seems to us that every bee-keeper in Illinois ought to have enough State pride to become a member of the State organization; and particularly when such easy terms are offered.

Remember, if you accept, be sure to mention that you want the membership also, so that we will know what to do.

Will Cooling Slowly Make Bright Yellow Beeswax?—An editorial in a bee-paper having said that the secret of getting bright yellow wax was to allow it to cool slowly, Editor Hill thought the space thus occupied would better have remained blank. Whereupon the question was askt in these columns:

> "Now, will Editor Hill please tell us why? Is it that the information is of so little value that it is a waste of space, or because there is no bee-keeper who does not already know it?"

The answer given to this question illustrates anew what is so frequently illustrated, that difference of view comes often from a difference in view-points. Editor Hill introduces his reply by saying:

> "Yes, we will try to tell why; tho at a loss to understand why such a request should be made by 'the oldest bee-paper in America.'"

It is only fair to say that the request was made in all sincerity, with an honest doubt as to whether the information was thought to be erroneous or already too well known. Possibly just because of being "the oldest bee-paper" the question was askt, for if Mr. Hill were old enough, or if he were to dig back far enough into the history of the past, he would find, and without going back more than the matter of a quarter of a century, that at one time it was held as a "secret" that slow cooling would produce bright yellow wax.

Mr. Hill turns his attention almost entirely to the color of the wax, as white or yellow, and says truthfully that nothing in the way of cooling will change the color from white to yellow, or *vice versa.* If a beginner should send to him the question, "What is the secret of obtaining bright yellow wax?" he might be supposed to reply, "There is no way of changing white wax to yellow. The color is a part of the wax."

If Mr. Charles Dadant were askt the same question, he would probably pay little attention to the word "yellow," and mentally put the emphasis on the word "bright," understanding his questioner to say something like this:

> "I see cakes of bright yellow wax that are made by others, but mine have not the same brightness of appearance, and have a dull or dirty look. How can my wax be made into bright yellow wax?"

And taking the question from that point of view, the veteran foundation manufacturer would probably reply:

> "The secret of bright yellow wax is slow cooling. Melt your wax and let it be a long time cooling, so the impurities will have time to settle, and it will be as bright as the wax of others that you admire."

As a matter of fact, the slow cooling is a *sine qua non* in ninety-nine cases out of a hundred, and perhaps necessary in the one-hundredth case. As Mr. Hill mentions, some wax from old combs needs the addition of acid to bring out the bright color, but that does not take away the necessity of slow cooling, and there is practically no bright yellow wax without slow cooling. Indeed, it is a bit amusing to note that Mr. Hill emphasizes this point by mentioning it in three different places. He truthfully says:

> "After a body of wax has been melted and permitted to remain at a high temperature for a sufficient length of time to allow the coarser particles of foreign matter to settle to the bottom, its color can not be perceptibly affected by the length of time occupied in the process of cooling."

That is, you must let it cool slowly enough so that it will be a bright yellow, and after that the cooling will make no difference in the color. Of course it must not be understood that slow cooling changes the color of wax, only as it gives time for impurities to settle.

It would not be right for that editor, who first called out this little discussion, to cultivate a spirit of retaliation, but if he should weakly give way to a spirit of that kind, it would be nothing strange to hear him ask Editor Hill:

> "If to get bright yellow wax it is of so little consequence to have the wax cool slowly, would it not be better, instead of occupying nearly a third of a column saying that it must cool slowly, that you should run in a lot of slugs and quads?"

Colorado and Moths.—In the Progressive Bee-Keeper, page 327, F. L. Thompson, referring to what was said in the American Bee Journal about moths in Colorado, objects to the words, "the moth that infests comb honey there," and says, "An injustice has been, and is, done to Colorado bee-keepers by allowing those words to stand without retraction." Mr. Thompson calls attention to the fact that it was the editor who used the words, but he seems not to have noticed the equally prominent fact that in the same item it was no less an authority than Prof. Gillette, a Colorado man, occupying a chair in the State Agricultural College of Colorado, who said, "there is a small moth....which I have repeatedly seen infesting honey-comb......and I have seen them in crated sections of comb honey." The American Bee Journal has neither motive nor desire to do injustice to Colorado bee-keepers, and it is not likely that many Colorado bee-keepers feel that any injustice has been done. Will Mr. Thompson please answer just one question: When Prof. Gillette said, "I have seen them in crated sections of comb honey," was he not speaking of the larvæ of the moth that infests comb honey there?"

✻ The Weekly Budget. ✻

Mr. W. L. Porter, of Arapahoe Co., Colo., made us a very pleasant call Nov. 13th, when on his way to visit in Michigan and elsewhere. Mr. Porter's honey crop the past season was something like 30,000 pounds, about one-third being comb honey. He has four apiaries, being one of the big bee-keepers of that great honey State.

* * * * *

Mr. George E. Dudley, of Arapahoe Co., Colo., writing us Nov. 12th, said:

"The bee-keepers have not been very prosperous in the West for the past two years, tho honey has been quite high. Owing to the lack of rain and the grasshoppers the crop has been very light. In Colorado the honey crop was fair, and the last carloads of comb honey sold in Denver for $3 00 per 24-section case."

* * * * *

Father Joshua Terry, of Salt Lake Co., Utah, called on us last week when he was attending the national irrigation congress which met here. Father Terry is 76 years old, a pioneer of three States—Utah, Wyoming, and Idaho—and is the oldest living mountaineer in the West. He certainly is a patriarch, and can give some wonderful accounts of life among the Indians and in that wild country a half century ago. He has been a bee-keeper for some 30 years, but lately his apiary has been run down from 90 to 13 colonies, on account of the smelter smoke, it is thought.

We hope Father Terry may survive yet many years, and continue to be one of our oldest esteemed readers of the American Bee Journal.

* * * *

Mr. Thos. Wm. Cowan, whose splendid convention paper appears on page 758, sent the following explanatory letter with it to Secretary Mason:

Pacific Grove, Calif., Aug. 17, 1900.

Dear Dr. Mason:—I have much pleasure in sending you a paper on the Chemistry of Honey. I have endeavored to write it in such a way that every one should clearly understand what I mean, and I hope it may be of some use in clearing up some of the confusion that exists in a few minds about honey, glucose, and sugar. I have tried to make it as short and concise as possible, and I hope it will not be considered too lengthy. You will see that the chemical make-up of glucose is not the same as honey, if we understand by glucose the common sense of the term, namely, commercial glucose.

I am sorry I shall not be able to be with you at Chicago, so you must convey my greetings to the bee-keepers assembled, and say I hope they will have a successful meeting. I should certainly have greatly enjoyed being with you, and meeting those I have seen before, and the larger number of those of whom I have only read. I hope you will enjoy the convention. Yours very truly,

Thos. Wm. Cowan.

The National Association, and bee-keepers in general, can count themselves very fortunate in being permitted to have among their number a man of such great ability as Mr. Cowan—and one who is so willing to impart his large fund of information for the benefit of all beedom. We esteem it no little honor to number Mr. Cowan among our personal friends, and are glad that now he is practically one of the United States bee-keepers, seeing he makes his home with his son in California, tho still editor of the British Bee Journal, publisht in London.

* * * * *

The Death of Editor Hutchinson's Father, at the age of 82, was chronicled on page 724. Those who know Mr. Hutchinson's kind heart will not be surprised at the following reminiscence of his father:

I can remember, soon after we came from York State, our one cow wandered so far into the woods in search of better pastures that she did not reach home until the next day. Did father get a fish-pole and proceed to dress her down? No, sir! He went into the house and spread a big slice of bread and butter, sprinkled on a thick layer of sugar, and then fed it to the truant. I can remember yet how she bobbed her head up and down while she was eating it, and how she followed father around afterwards, and kept smelling and sniffing to see if she could find another sweet morsel.

The notice ends by the editor saying of his father what is much to say of any man, viz.: "Father was a Christian, a kind husband and father, and an honest and upright man."

* * * * *

Secretary A. B. Mason, of Toledo, Ohio, writing us Nov. 17, had this to say about his bees, etc.:

Friend York:—Cold weather came on the 14th, and our bees went into the cellar yesterday in good condition. I had but little surplus honey this year—perhaps 25 pounds of extracted per colony.

Well, it's so late I believe I'll not send you an invitation to my 67th birthday (or is it the 68th?) anniversary, that comes to-morrow, but we'll not celebrate till the next day.

Very truly yours, A. B. Mason.

Too bad we had to miss that anniversary occasion—both on account of receiving no invitation, and because Dr. Mason doesn't know any better than to live so far away from Chicago! Well, just the same we wish him a large number of returns of the day, before he shall be called to join the great majority of good bee-keepers and others who have "gone on before."

* * * * *

Mr. W. H. Neblick, of Indian Territory, we must thank for a nice box of open cotton-bolls, sent Nov. 5. He reported the cotton-fields as being white at that time, with no frost yet, and that bees had done well this year. We have never seen cotton growing, but think it would be a beautiful sight. We divided some of the cotton-bolls among the employees of this office, reserving several for our own home. They are ornamental in this locality, and will be prized by all.

* * * * *

The Novelty Pocket-Knife offered on page 765, will hereafter be $1.25, or the knife and the American Bee Journal one year both for $1.90. In either case the knife is sent by registered mail. If wanted in time for using as a Christmas present, the order should be sent to us as early as possible. There is always a great rush for these knives a week or two before Christmas, and then they are more likely to arrive after Christmas than before, spoiling the effect of the present somewhat.

Convention Proceedings.

Report of the Proceedings of the 31st Annual Convention of the National Bee-Keepers' Association, held at Chicago, Ill., Aug. 28, 29 and 30, 1900.

BY DR. A. B. MASON, SEC.

(Continued from page 742.)

DISCUSSION OF DISEASES OF BEES AND THEIR CURES.

Prof. C. P. Gillette—I have with me two small microscopes and lenses. I will be glad to place them on the table and let any of you examine these larvæ. Dr. Howard says they can be examined with small lenses. I will put them on the table during the intermission, and you may examine them.

Pres. Root—This question is open for discussion. I would like to hear from Prof. Gillette in regard to pickled brood in Colorado.

Prof. Gillette—I have made no special study of the pickled brood in Colorado. We have in the northern part of the State, I think at least quite generally over the State, what is considered there as pickled brood. The larvæ will lie in the cells, and usually surrounded by a considerable amount of food. The larva itself is in a wet, soggy condition, usually somewhat discolored, of a brownish color, and can be removed with a toothpick or a pin, and you can still detect the shape of the larva and the pupa, and in some cases I have noticed the adult bee, or the bee apparently ready to emerge from the cell, but still dead in the cell, and apparently from the same cause—wet, soggy, and dead—evidently not foul brood.

Mr. Green—To what extent is pickled brood contagious?

Prof. Gillette—I don't think any one knows; in fact, I am not sure it is known that it is positively contagious, tho it probably is. I believe the cause of pickled brood is not known at present any farther than what Dr. Howard has told us. It is probably due to bacteria of some sort.

Mr. Green—Have you known it to damage colonies to any great extent as honey-producers?

Prof. Gillette—I think so in some cases, but not in very many; I have heard of two reports of the disease where it was large enough to decrease the number of colonies quite badly, so that the colonies would not amount to much. At Ft. Collins I have noticed the disease for four or five years, but only a small number of colonies were affected; I never had a case bad enough to injure the colonies perceptibly. Usually only a few cells in a colony were affected—I could find ten or a dozen, perhaps 15 or 20 of these dead larvæ when the disease was the worst, but this occurred within a short period of time. Mr. Aikin is present, and could give some information in regard to that.

Mr. Aikin—I can't give any information further than has already been given. There is some disease existing among our bees, and has been for a number of years—I think six or eight years; what it is I never knew, and, as to the extent of it, I never had it to appear sufficiently in any one colony to make any perceptible difference in the strength of the colony, or affect it any way, further than that there was scattering dead brood. It comes and goes; as to the cause of it any further, in a scientific way, I can't give you any information whatever.

Mr. Hatch—Perhaps I can offer something in a practical way. I don't know anything about it scientifically, but I found this pickled brood in California, and so bad in some instances that the colonies were entirely worthless the whole season.

Dr. Mason—When was that?

Mr. Hatch—That was three years ago. Then I came to Colorado and bought out two apiaries. I found it there, and I found the colonies were completely worthless the whole season. When I came to Wisconsin I bought out four apiaries. In three of those I found the same pickled brood, and I have had this season colonies that were completely worthless—good for nothing on account of it. I think it is almost worthless where you find bees with pickled brood. I never found any kind of disease in Arizona bees, and I think for lack of observation is one reason, when they think they haven't got it. I think there are very few apiaries in Wisconsin but what have it more or less.

S. W. Snyder—I would like to ask if a prevailing notion does not exist among bee-keepers that this pickled brood will finally develop, thru a series of developments, into foul brood?

Pres. Root—If you are asking the chairman that question, I would say that it is somewhat of a prevailing notion that pickled brood continuing to develop would develop into foul brood. The most I can say is that it would only be a favorable medium for foul brood; pickled brood would not very well turn into foul brood. Am I correct, Prof. Gillette? This gentleman here wants to know whether one disease would turn into another. The question was askt whether pickled brood, after a series of developments, would finally develop into foul brood. Prof. Gillette does not know what I have said, so I will see what he says without any prejudice.

Prof. Gillette—We might have to know a little more about pickled brood before we could positively answer that, but it is practically certain that the pickled brood can not be any stage of foul brood. Any disease that is caused by disease-germs produces a peculiar disease; you can't get from that disease-germ some other disease any more than you can plant one kind of seed and get another kind of crop. Certain diseases work in a certain way upon plants and animals, and produce certain results, always the same. The cause of pickled brood not being certainly known, might be noticed in a certain locality, might take a certain form which we call "pickled brood;" in that case we would occasionally find foul brood developing from it; it is practically certain that one isn't related in any way to the other.

Mr. France—I agree with the professor in my experiments in that respect; my observation now is for four years in our State, that pickled brood need not develop into foul brood. It may form the proper medium, but so far as my observation goes pickled brood would be a way to develop foul brood. I think they are independent.

Pres. Root—Dr. Mason has askt me how I am to tell if they agreed with me; all right enough.

Dr. Mason—That doesn't agree with what you said awhile ago.

Pres. Root—I said it might be a favorable medium for it; but it would not develop into foul brood, as I understand it.

Mr. Snyder—I would like to ask another question. In case a colony has been slightly affected this year with pickled brood is it likely to follow up next year in a more serious form, having disappeared this year?

Pres. Root—I would like to pass that on to some one who has had more experience—Mr. France or Mr. Lathrop.

H. Lathrop—Several years ago I had several colonies in northern Wisconsin that were so badly affected with pickled brood when I first saw it that I was scared, because I was afraid of foul brood. I markt those colonies, and went so far as to burn up one frame of brood and honey; but the disease disappeared towards fall, and did not appear the next year in those colonies that I had markt on account of being the worst affected with pickled brood; but I can always find, every year, a few cells somewhere in the apiary of what I understand now to be pickled brood.

Dr. Mason—What is the cause of pickled brood?

Pres. Root—Lack of pollen is one thing, I think Dr. Howard says. I don't know what the other causes are; perhaps Prof. Gillette will tell us.

Prof. Gillette—I don't know the cause. I think Dr. Howard has been working on a certain cause of pickled brood, and I believe he stated in the paper he did not yet know certainly the cause. It seems to work like a bacterial disease, and still he has not been able to isolate the particular germ that will cause the disease; so as yet we are in the dark, as I understand it, as to what the real cause is. It has been thought to be caused by chilling of the brood, but I think that has been disproved, from the fact that it will disappear when there has been no opportunity for chilling of the brood. It seems like a disease caused by a disease-germ, and that that germ has not been found.

David Coggshall—I don't know anything about it. I have never seen a case.

Dr. Mason—Of pickled brood?

David Coggshall—Not that I ever thought was such a thing, in my apiaries.

Mr. Aikin—You were speaking of the lack of pollen being probably the cause, or having something to do with the disease. I will make this statement in regard to the matter, that I have been reading in the papers in regard to the famine districts in the East, that the famine itself was not the worst result; that the consequences that followed the famine were of far greater concern than was the famine itself, and one of the particular reasons is this, that the famine produces such a weakened or enervated condition of the system that diseases are likely to follow and attack the individual. Now, coming more directly to our subject, Mr. W. L. Hawley, of Ft. Collins, with whom Prof. Gillette is well acquainted, I suppose—they are both in the same town—Mr. Hawley claims to have discovered the cause of pickled brood. He has a dead brood that has afflicted his bees the worst of any I have known in the State, and I suppose it is this same disease that we are talking about. I say I suppose, for I don't know. Mr. Hawley said that he came to the conclusion that it was a lack of pollen, and when he was examining his colonies he took special pains to notice whether the colonies being diseased had pollen in the hives, and he found those that were the worst diseased had the least amount, some having none to be found whatever. Well, now, it is a fact that in our locality there is a dearth of pollen, usually at all seasons of the year in my locality, which is 14 miles from the Agricultural College where Prof. Gillette is, and 15 miles from Mr. Hawley's apiary. In my locality the bees will search for pollen at all times of the year, except during a fine honey-flow, and when the honey is being gathered during a flow there is no pollen whatever gathered, except occasionally a bee will get a little, which the bees seem to need, absolutely need, in their building operations. I might incidentally mention that of course that condition favors us, that we never have pollen in the sections or surplus honey under all normal conditions. Now, Mr. Hawley undertook a method of curing this disease in his bees, and he said it was so bad that almost the entire brood of some colonies was dead, and the procedure was this: He took combs—brood-combs, right from the brood-nest, but not having brood in them—and took common flour and filled the cells of from one to two combs, placing those combs one on either side of the brood-nest, and he assures me that just as quickly after putting that in as the bees could mature what brood they had, or clear out what brood was dead, that thereafter there was no more of the disease, and he was so confident that he was on the right track that he has practiced now for two seasons feeding flour at that time of year. It usually gives most trouble about June and July, and he says he has no more trouble with it. Now, here in this room yesterday I examined the comb that was badly affected, I would say badly, with some disease, some dead brood, I don't know what it was, but it looks just like what we have in Colorado, and I mention this matter of the lack of pollen; and on examination of this comb I find there is pollen in it; but the question will arise, Was that pollen there when the disease entered and killed that brood, or has it been stored in that comb since? It is evident to every one of you that the presence of pollen in that comb does not in any sense prove that the brood died for lack of pollen, or otherwise, because, as I say, the pollen may have been placed in that comb after the disease entered the brood, so we don't know. This is one of the points—one of the places—in which we are so liable to make a slip in our observations, and it is very hard for us to say that a certain thing is so. that a disease is caused by certain conditions, unless we have put it thru a very severe and accurate test, such as they are capable of doing at our agricultural colleges and experiment stations. You all know how that comes about, that people will tell you that they have found out for certain what will accomplish this and that in our apicultural affairs, and they come out in the papers with an article and tell what they have discovered; and the next year, or, may be, before the next year commences, they find they have made a mistake, and hear no more from them. Now, I don't want you to go out and say that this disease is caused by lack of pollen, from what I have told you of Mr. W. L. Hawley's observations. It is possible, after all, he is mistaken; that the disease exists all over the country more or less, east, west, north and south, and in localities where they evidently have pollen at all times in the hive or available in the fields, seems to me to be proof that Mr. Hawley may be mistaken. The thought is worth considering, and we should look into it, but we should not yet jump to the conclusion that we have the cure, or the cause, of pickled brood in the absence of pollen. Now, from a scientific point, and from a practical point, this is all I know about the matter. I have intended to follow Mr. Hawley's methods, and make some closer observations. I intended to do so during the past season, but a man who is as busy as I am, and has to make his living from his business, can not accomplish these things in definite form so that we really know, and can say absolutely that we do, or do not, know the cause; and it is a matter for experiment stations to take up and go into the details in a thoro and scientific manner. It should be the duty of every one of us who is in touch with these experiment stations to aid in every way we can in getting at the right in these matters.

Pres. Root—I would say that in my private correspondence I run across quite a number of letters wherein the suggestion is made of the lack of pollen as the cause of this disease. I did not know that Mr. Hawley had ever thought that the lack of pollen had ever been instrumental in starting pickled brood, and I know that quite a number have said something to that effect, and there may be something in it.

Mr. Hatch—I am not anxious to prolong this discussion, but I am loth to have the convention go on record as assigning the lack of pollen as the cause of pickled brood, because I am quite positive there are cases in Wisconsin that are not due to lack of pollen, as there is no lack of pollen from the time willows bloom until the honey season closes. I am sure that all the cases that have come under my observation in Wisconsin are not from lack of pollen. I think the case stated by Mr. Aikin doesn't necessarily prove the lack of pollen. It would seem to indicate to my mind that it came *from* the pollen, and not from the *lack* of pollen.

Pres. Root—Of course that is a matter to be determined by the experiment stations. I hope the one at Ft. Collins may be able in time to take hold of that, as it is in that immediate vicinity. We must not spend too much time on it. I thought some of the convention would like to know some of the symptoms from the bee-keepers' standpoint, of pickled brood, foul brood and black brood. I haven't a microscope; you will have to depend upon what I can see with my naked eye. Foul brood has for its principal symptom the ropiness of the dead matter; it has a sort of coffee color, or yellow color, and it also has a foul odor, something like an ordinary glue-pot, such as we see at the cabinetmaker's shop with poor glue in it. Pickled brood sometimes has a sour smell. Black brood will not have that sour smell. Pickled brood and black brood look very much alike, and I think in many cases, and perhaps a majority of them, it would take a microscope to determine the difference; but pickled brood, after it has advanced to a certain stage, if taken away from the bees and left for a week or ten days, will be apt to show a kind of white mold, something as tho cotton-batting had been drawn over the surface of it. Black brood never has that. Pickled brood sometimes will have a sour pickle smell to it. Black brood always has it so far as I know, very strongly. The color of pickled brood and black brood I describe together, because they are alike; the color of the dead larvæ is generally white at the first stage of the disease, and sometimes the pupa itself is white. In the more advanced stages we find it turning to a coffee color like foul brood, and then we will find, if it is black brood, a cell—perhaps a very few of them—that will "rope" very slightly, perhaps ⅛ to ¼ inch, but you will find, I should think, only three or four of such cells in a good comb. In the case of foul brood, if you find one cell that is ropy, you will be likely to find other cells ropy; but that isn't true of black brood. In pickled brood I think we never find a ropy cell. From a layman's standpoint—for any one who is not a scientific bee-keeper, and does not have at his command a microscope—I think these are the only symptoms which we can give by which we can diagnose these various diseases.

Pres. Root—We will now listen to the paper by Mr. Thomas Wm. Cowan, editor of the British Bee Journal. Mr. Cowan is now living in California. Dr. Mason will read the paper.

CHEMISTRY OF HONEY, AND HOW TO DETECT ITS ADULTERATION.

It is not at all unusual to hear people speak about bees gathering honey from flowers, or mentioning various plants as "honey-producing plants." Even in botanical text-books we read about "nectaries" or "honey-glands" in flowers. These terms are certainly not correct, because honey is essentially a product of the bee, and not of the flower which the insect visits. The sweet secretion which the bee gathers from the flower is called *nectar*, and consists almost entirely of cane-sugar. But after it has been collected by the bee, and before it is stored in the cells of the comb, it undergoes a change, and the cane-sugar is transformed into two other sugars called respectively grape-sugar and fruit-sugar. This transformation is brought about thru the action of a secretion produced by glands situated in the head of the bee, and is similar in operation to saliva in the human being.

In order to have a right understanding of the subject, we will briefly glance at the way in which the sugar composing nectar is produced in the plant.

There is an important group of compounds which form the largest part of the body of all plants. These contain carbon, hydrogen and oxygen, and the elements of hydrogen and oxygen being present in the same proportion as they exist in water, the name of *Carbohydrates* has been given to them.

When light shines on a green leaf and stimulates it into activity, the leaf absorbs, principally thru its stomata or pores, carbon dioxide (also called carbonic-acid gas) from the air. After entering into the cells of the leaf, the carbon dioxide, together with a certain proportion of water, undergoes chemical changes, the carbon of the carbon dioxide becoming fixt, and a rapid accumulation of carbohydrates takes place in the tissues of the plants, the oxygen escaping into the air.

The most important of these carbohydrates is starch, which, thus formed, at first deposits in the leaf-cell in which it took its origin. From it a number of other vegetable products take their rise, which constitutes the greater proportion of all plant structures. In order that this may be done, the starch once formed must be carried about by the sap of the plant into every cell, whether of the root or flower. As each cell is a delicate membranous bag closed in itself, a solid matter—such as starch would be, owing to its insolubility in cold water—can not be removed from the tissues in which it is stored to the centers of growth where it is needed, but must be digested or transformed into a soluble easily diffusible substance. The solution is effected by the chemical activity of an enzyme, or unorganized ferment, which is secreted by the protoplasm in the plant. This ferment is called *Diastase*, and it is owing to its presence in active plant-juices, that the starch is dissolved. The solution thus obtained is devoid of starch, has become sticky and sweet, and contains a substance called Dextrine, and a variety of sugar named Maltose.

From the solution every minute cell abstracts a portion of the sugar and deposits it in the form of *cellulose*. This is the framework or woody fibre of every plant. It has chemically exactly the same composition as starch. Another portion of the dissolved starch is changed by the plant into *cane-sugar*. All plants form more or less cane-sugar, and secrete it by an apparatus called a nectary, which is generally connected with every flower, altho in many plants nectaries exist in other parts, perhaps quite distant from the blossom, and these are called extra-floral nectaries. This secretion, properly called *nectar*, is what bees gather, and it consists almost entirely of cane-sugar, to which the sweetness of most flowers is chiefly due. The bee appropriates this cane-sugar, and by means of the glands already mentioned, transforms it into two other sugars called respectively *dextrose* and *levulose*.

According to their composition sugars fall into three groups. These are:

1. The *glucose group*. The principal members of this group are dextrose or grape-sugar, levulose or fruit-sugar, and galactose.
2. The *cane-sugar group*. The principal members are cane-sugar, sugar of milk, and maltose.
3. The *cellulose group*. The principal members are cellulose, starch, gum, and dextrine.

As much confusion exists in the lay mind respecting the various terms used by the chemist in describing sugars, and as each of the above groups contains different sugars, altho of the same chemical composition, it is well to explain the meaning of those terms with which we have to deal, so that the uninitiated may understand just what the chemist means by the words he uses.

Dextro-glucose, glucose, and grape-sugar, are synonymous, and are frequently used to designate dextrose.

Levo-glucose, fruit-sugar and fructose, are other names for levulose.

In like manner saccharose, sucrose, and cane-sugar, signify the same thing.

When the chemist speaks of sugar he may allude to any of the sugars in groups 1 or 2, and when he uses the term glucose he may mean any glucose of group 1. With those who are not chemists it is different; they understand by glucose, commercial glucose which is dextrose only, and by sugar ordinary cane-sugar such as they use daily in their households. Now, altho, from a chemist's point of view honey is glucose, to call it so puzzles an ordinary person, because he at once, and quite naturally, associates it with commercial glucose or dextrose, from which honey materially differs in that it consists of both dextrose and levulose.

Honey consists of water and sugars belonging to the first group. The quantity of water varies from 12 to 23 percent, the normal proportion being 18 to 21 percent. When the percentage falls below 18 the honey is generally hard and solid; when it is higher than 21 it is often almost or quite clear, but the clearness does not always depend upon the amount of water alone.

Normal honey almost invariably divides into two portions, a crystalline, solid one, and a syrupy one devoid of the power of crystallizing, and rather sweeter than the solid portion. Chemically these two dissimilar substances are identical in composition, and both belong to the glucose group of sugars, but physically they possess very widely different properties. If a polariscope be used it would be found that the crystalline portion twists a ray of polarized light to the right, and is therefore called *dextrose*; the non-crystalline portion however turns the polarized ray to the left, and for this reason it is called *levulose*.

The great bulk of honey is composed of these two sugars in about equal proportions. It is kept in solution or liquid by about one-fifth of its weight of water, which, however, is not quite sufficient to keep one of the sugars—dextrose—permanently in solution, and gradually this separates in the crystalline form, holding the liquid levulose in suspension, and we have what is known as candied or granulated honey. The proportion of water in the honey is not a merely accidental one. Were more than one-fifth part of water present, it would be so fluid as to cause the honey to run out of the comb. Were it smaller than that stated, it would in damp weather attract moisture from the air. It remains transparent in the comb for a considerable length of time, because it neither loses nor appreciably attracts moisture.

Genuine honey almost invariably becomes opaque, or granulates, altho there are rare exceptions. When it happens that before the honey is extracted some of the crystals of dextrose remain attacht to the cells, levulose predominates, and the honey remains clear for a long time, notwithstanding that the proportion of water may be very low.

All the saccharine substances in the different groups mentioned act upon polarized light, turning it more or less to the right, except levulose, which, as I have already stated, turns the ray to the left.

When treated with acids they undergo a remarkable change—they are all transformed more or less completely into dextrose, with the exception of cane-sugar, which yields both dextrose and levulose.

The rotation of the polarized ray, to the left of levulose is greater than the rotation of the same quantity of dextrose is to the right. Therefore, when mixt together, as they are in honey, the polarized ray is twisted to the left side. All other sugars turning to the right, it is clear that whatever saccharine admixture is made to the honey, the mixture must polarize to the right, thus possessing perfectly distinct optical properties, distinguishing it from genuine honey.

But the bee carries with it from the flowers other constituents of considerable importance, and incorporates them in the honey. A great number of pollen-grains find their way into the cells, and from these minute quantities of coloring-matter are dissolved, which give honeys from different flowers the innumerable shades of yellow and brown with which we are so familiar. Thus, honey produced from white clover is devoid of color, that from sainfoin is yellow, from beans brown, and from heaths quite dark. Honey always contains more or less pollen, and with the microscope an expert can frequently tell from the shape of the various pollen-grains, the sources from which the honey was derived.

Still greater is the variety of flavors and odors, and every conceivable aroma due to the essential oils, is met with, so that a practiced observer can, without much difficulty, decide from what kind of blossom the nectar was obtained from which the honey was produced.

Having briefly stated the characteristics of genuine honey, I will endeavor to show how when adulterated the adulteration can be detected.

There are three classes of manufactured honey: First, that made from ordinary sugar, consisting of cane-sugar syrup; second, that obtained by the action of an acid or ferment upon cane-sugar, and consisting as genuine honey does, of water, dextrose and levulose; and, third, the product of the action of acid on starch, called corn syrup or commercial glucose.

A solution of pure honey in water when boiled with an alkaline solution of sulphate of copper deposits a precipitate of red cuprous oxide. Neither by the addition of alcohol nor of lead acetate, nor of barium chloride, should a solution of honey be rendered perceptibly turbid. Subjected to fermentation by the addition of yeast, practically the whole of the saccharine material should be decomposed and transformed into alcohol and carbon dioxide. And lastly examined by the polariscope the polarized ray should turn to the left. Some honeys, such as those produced from nectar gathered from extra-floral nectaries, polarize to the right, but if further subjected to dialysis for a certain length of time, the ray turns from right to left back to zero.

Cane-sugar syrup, altho it agrees in its chemical behavior with real honey, when treated with alcohol, lead acetate or barium, not yielding any precipitates with them, differs essentially from it inasmuch as it does not reduce an alkaline solution of copper sulphate, consequently no deposit of red cuprous oxide takes place. A solution of cane-sugar turns the polarized ray of light to the right.

Cane-sugar which has been made into dextrose and levulose by treatment with an acid, is chemically identical with honey, and exhibits the same characters, but its origin is betrayed by the traces of acid which always remain mixt with it, and which cause precipitates with lead or barium solutions.

Starch or corn syrup, known commercially as glucose, differs in almost every respect from honey. It throws down abundant precipitates with lead and barium solutions, and often with alcohol. It does not ferment completely, but leaves about one-fifth of its weight as unfermentable gummy residue, and, examined by the polariscope, it turns the ray of light powerfully to the right.

Glucose is prepared on a large scale from corn-starch. The transformation is usually effected by boiling with dilute sulphuric acid. The excess of acid is removed by treating the solutions with chalk and filtering. The filtered solutions are evaporated to a syrupy consistency, and sent into the market under the names of glucose, corn syrup ; or to dryness, the solid product being known in commerce as "grape-sugar." Much of the granulated sugar of commerce is adulterated with glucose.

If in the treatment of starch with sulphuric acid the transformation is not complete, and this is usually the case, the product is a mixture of dextrose, maltose, and dextrin. It is quite easy generally to recognize the acid which has been used to convert starch into glucose. In the laboratory it is quite possible to make pure glucose and remove every trace of acid, but commercially it is practically impossible by subsequent precipitation of the product to get rid of this acid, and as a consequence it appears in the honey which is adulterated with it, and by adding to a clear solution of honey containing such glucose a solution of barium chloride, a white turbidity at once makes its appearance varying in density with the quality of corn syrup present and the state of its purity.

The exact percentage of glucose added to honey can be determined by the polariscope. I use a Soleil-Duboscq instrument with a tube 200 millimetres long, and Dr. Haenle's formula, which is the following :

$$x=\frac{(P+p)\times3}{10}$$

for flower honey, x=percentage of adulteration, P=polarization of honey that is being examined, p=normal polarization of pure honey. The normal polarization of honey being 30 degrees, it follows that if we find a honey that shows say 44 degrees of polarization to the right, according to this formula, we have

$$\frac{(44+30)\times3}{10}=22.2\text{ percent}$$

of corn syrup added. In this way it is quite easy to determine whether a sample is adulterated with glucose, and the amount of the adulteration.

Cellulose has chemically exactly the same composition both qualitatively and quantitatively as starch, and, like it, can be transformed into glucose by the action of sulphuric acid. It will, therefore, be seen that substances containing cellulose, such as old cotton and linen rags, paper or wood, could be used for the preparation of dextrose or glucose, did not the low price of starch render the employment of cellulose for the preparation of this kind of sugar unprofitable.

When bees have been fed with cane-sugar syrup, only part of this is transformed into dextrose and levulose, so that it is easy to detect the presence of cane-sugar in the way I have pointed out before, when this method of fraud had been adopted.

Chemistry has made enormous strides during recent years, but so far only chemical compounds of comparative simplicity have been the result, and not in any case has any complex product, such as is used for man's food, been obtained. The value of food substances, and above all their price, generally stands in no relation to their composition. Composition, as ascertained by chemical analysis, goes for very little ; *quality*, which is dependent upon circumstances beyond the present knowledge of the chemist, goes for a great deal. For instance, a pound of tea has chemically no more value than a pound of plum or willow leaves, but who would pay the price for these that tea is really worth ? Wine consists of dilute alcohol, slightly acid, and more or less colored, but chemistry has failed to produce from these ingredients anything resembling the high-class wines which command such enormous prices. Sawdust is chemically the same, both qualitatively and quantitatively, as corn flour, but one would not care to have the former substituted for the latter at the same price. We would resent our butcher giving us leather instead of meat, altho the composition of these is chemically almost identical. I might extend this comparison indefinitely, for it is the same with almost every article of food or luxury. The difference between good and bad tea, or wine, or meat, is so small that the most careful analysis fails to detect it. The value, therefore, is not a question of the composition of the article, but is regulated by the presence or absence of minute quantities of flavoring-matters about which we know very little or nothing at all.

We prize honey not because it consists, as the chemist would say, of sugar and water, but because it possesses a delicate aroma and flavor which is always absent from, and can not by any known means at present be imparted to, any artificially made syrup. Glucose, and even cane-sugar that has been given to bees to store in the combs, are totally devoid of the aroma of honey, so that when these are substituted for honey the fraud can be easily detected.

The taste of the public has not yet been sufficiently educated, and any syrup is eaten as honey provided it looks transparent, and is contained in a neat jar and has a gaudy label. When the taste is as well educated for honey as it is for tea, meat or other articles of every-day consumption, no one would venture to palm off artificial syrup for real honey.

It is difficult to decide whether the food-value of the substitute is as good as that of the original article. Sugar in any form produces the same proportion of heat. Oleomargarine, when burnt or digested, produces the same amount of heat as butter. Yet butter holds its own against its substitutes on account of its delicacy of flavor and more ready digestibility. And we have reason for believing that a similar difference exists between honey and glucose. We know that bees refuse, as long as they are able, to feed upon glucose, and when driven by starvation to take it they soon die. The probable reason for its deleterious effect is that levulose, one of the constituents of honey, is absent, and that the glucose of commerce contains impurities. At any rate any chemist caring for his reputation would pause before giving a definite opinion as to the relative food-values of the two products.

Moreover, we know that dextrose is the sugar found in the urine in cases of diabetes, often to the extent of 8 to 10 percent, and also that levulose is a purgative, which probably counteracts any evil influence dextrose may have if taken alone. Thus we have very good grounds for considering glucose deleterious, while the combination of dextrose and levulose in the form of honey as a healthy food. Experience has shown that honey can frequently be eaten by those who can not take sugar. The reason is, that when cane-sugar is taken, before it can be assimilated it has to be transformed into the two sugars that compose honey. Should the digestion be faulty, and the transformation not be complete, some of the cane-sugar enters the circulation and acts as a poison in the blood. Honey is already cane-sugar perfectly transformed, and is therefore ready to be assimilated without any previous digestion. For this reason pure honey is to be recommended for children and persons of weak digestion.

I will not enter into the question of whether the substitutes for honey should be allowed to be sold. If they are *per se*, not considered harmful, they should at any rate, in fairness to the purchaser, be labelled, and their constituents stated on the labels, so that the buyer may know exactly what he is paying for, and I have no doubt that when the public taste is educated, as it has been in respect to other foods, there will be a demand for good, delicately flavored honey, and glucose sold as a substitute for it will be a thing of the past. THOS. WM. COWAN.

Pres. Root—This is a most valuable paper, but it is a little too technical for most of us, I imagine. As our time is spent this morning, I think we would better hurry on with the program. If there is no objection I will do so. Before taking up the balance of the program, I wish to name the committees I was to name yesterday.

THE COMMITTEE ON RESOLUTIONS.—R. L. Taylor, Rev. E. T. Abbott, and O. L. Hershiser.

COMMITTEE ON SCORE CARDS.—N. E. France, W. Z. Hutchinson, F. Wilcox, R. C. Aikin, and O. L. Hershiser.

These committees will be prepared to report the first thing this evening.

(Continued next week.)

Contributed Articles.

No. 6.—Interesting Notes on European Travel.

BY C. P. DADANT.

BEFORE I describe my visit at Nyon, it may be well for me to tell the readers how we originally became acquainted with the editor of the Revue Internationale. This is a bit of retrospective history on European bee-culture.

When we came to America in 1863, my father, who was then 46 years of age, had for many years kept bees in Europe for pleasure, but had never made a business of bee-keeping. Within two or three years, with the help of the works of Langstroth and Quinby, he ascertained what a great step forward was being made in this country, and he endeavored to give his native land the benefit of what he had learned by sending articles on the movable-frame hives to L'Apiculteur, publisht at Paris, and which was the second oldest periodical publication in the world, the oldest being the Bienenzeitung. But the editor of L'Apiculteur, Mr. H. Hamet, happened to be a man who was satisfied, in his own mind, that no progress could be made in the particular lines that he controlled, and he systematically fought everything new in bee-culture. He called the movable-frame hive a "puppet-show box," and the honey-extractor "a useless toy." He resolutely closed the pages of his magazine against any attempt at introducing progress.

But my father was not to be put off, and began to write articles for the various French agricultural papers. After some seven or eight years of controversy, public opinion began to form, in spite of Hamet, in favor of the American movable-frame hives, and several imitators came to the rescue. It was then that Mr. Bertrand establisht the magazine now known as the "International Review," and wrote to my father, asking for his collaboration. His request had hardly been mailed when he received a proffer of help from him. The fight for progress was then well establisht on Swiss soil, and it was not long till American views on bee-culture were generally accepted by French speaking bee-keepers. Even the old Apiculteur, after the death of Hamet, was reluctantly compelled to accept the progress accomplisht.

Since that time Mr. Bertrand has publisht one of the most popular books on bee-culture, the "Conduite du Rucher"—the Conduct of the Apiary—which was translated into several languages. He has also been the editor of the French edition of Langstroth. Thus for 22 years past we have been in constant communication with him, and I may truly say that when we found ourselves in his house we felt absolutely "at home."

The Swiss "chalet," which is seen everywhere in Switzerland, from the top of the highest pastures to the foot of the hills, on the lake shores, makes a very pretty picture. Up in the mountains, the coarse shingles that form those long-eaved roofs, are not only nailed down to the rafters, but they are also covered with large stones to prevent the high winds, that whirl around the peaks, from tearing them off.

The mountain chalet is used not only as a dwelling for the herdsmen, but as a milk-house, and in many cases as a shelter for the cattle during the storms. The chalets on the lake shores are, on the contrary, very ornamental villas, with all the comforts of civilization. The view given here is of the one inhabited by Mr. Bertrand, and, tho very attractive, is not to be compared with the view obtained from the windows of that same house. Imagine yourself looking out on a pretty park adorned with flower-beds, running streams of clear water, two small ponds with water-lilies of different colors, small groves of trees on either side; beyond the blue waters of the lake, three miles wide, a number of villages scattered on the far-away hills, an amphitheater of mountains in the rear, and, still further back, 60 miles away, but seemingly close at hand, the snowy summit of Mont Blanc, white in the morning, pink at sunset, and of a bluish shade at dusk. Walking thru this little park you discover, in a remote corner on the right, a couple dozen hives of bees, hidden among the trees, and a small bee-house with the usual implements of the experimenting apiarist. On the left is a small river emptying into the lake, with a nice little row-boat harbored in its mouth.

In that little park Mr. Bertrand has gathered together a wonderful collection of foreign plants and trees, especially, of course, honey-producers. Here I saw an old acquaintance, the Chapman honey-plant (Echinops spherocephalus). which made such a stir among our bee-men at one time. Mr. B. narrated to me his experience with that plant. He had noted its attractiveness for the bees long before we did on this side of the Atlantic, and had cultivated it extensively enough to ascertain that its value to the bee-keeper was only apparent. When the demand began for it in America, Mr. D. A. Jones, of Canada, offered $5.00 per ounce for the seed. Upon this, Mr. B. harvested some four pounds of it and sent it to Mr. Jones with his compliments. Mr. Bertrand says that a number of plants have, like this, a great attraction for the bee that are not honey-yielders.

He showed me another, the Eryngium giganteum, on which the bees are forever working while it blooms, but without results. This was tested by marking some of the bees with flour. The same bee was seen to work about the same bunch of these flowers for five consecutive hours without any apparent result. He nicknamed the plant, "The-bar-room of the honey-bee," because the more they sip the dryer they are. Luckily it does not make them tipsy, but wears them out, which is nearly as bad. There are probably a number of plants which ought to be placed in the same category, plants whose fragrance evidently attracts them without furnishing any returns for their pains, except, perhaps, the pleasure of sipping an infinitesimal drop of nectar, which serves only to keep them at work trying for more. Perhaps there are times or locations when the honey-yield of these plants is greater. One thing is very evident, the same blossoms do not furnish honey in like quantity in different countries, tho it may be ever so common. For instance, the white clover, which is one of our best crops, is of no value in Switzerland, if I believe the authority of the most practical apiarists there, including Mr. Bertrand himself, who has had several hundred colonies in different apiaries and at different altitudes. He

The Chalet or Home of Mr. Bertrand.

now keeps only about 80 in two apiaries, owing to his ill-health, and devotes most of his time to his journal, with the help of his kind wife, who has bent her energies to the task out of devotion to her husband.

The curiosities of this little park are not confined to bee-plants, for I saw there many sorts of exotic plants, or trees, from the cedar of Lebanon to the bamboo of our southern countries, which seems to thrive in the climate of Lake Geneva. As one instance of Mr. Bertrand's love of observation, I will say that he showed me a record of his remarks on the growth of the latter, which we all know is very rapid, and if I remember rightly, the fastest growth in warm weather was as much as an inch in the space of an hour. On the other hand, I saw an American tree—a blue ash, I believe—that seemed like a homesick exile, stunted and suffering as if in want of nutrition.

Two days after our arrival we took an excursion on the lake, to visit the home and the apiary of a bee-keeper who had formerly been in the employ of our host as landscape gardener, but who had saved enough to be independent, and was keeping bees and growing grapes on a very pretty little farm on the lake shore. We were received, as in every other place that we visited, with the utmost cordiality, but with a little of the excess of hospitality so common among the working classes and the peasants of Europe. You must eat, you must drink, and it serves nothing to say that you have just had your dinner, that you are neither hungry nor thirsty, for you will be given no peace—in fact, you will almost offend those naive people if you do not accept what they consider themselves in duty bound to offer you. It is hospitality carried to extremes.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Cellars for Wintering Bees.

In answer to Daniel Whitmer's question, on page 711, I may say that one summer I was at Adam Grimm's place, and he showed me a cellar that he had just built, specially intended for bees, having a cement floor. The next time I was there he told me it was not a success, and he thought the cement floor was objectionable. The cellar under my own house was divided into 3 rooms, one of them intended for bees, having a cement floor. It did not seem to work satisfactorily, and for years the bees have been cellared in the rooms with clay floor. Mr. Whitmer wants the cement floor for convenience in sweeping up dead bees. He might take Mr. Doolittle's plan and put half an inch of sawdust on the cellar bottom, which would make it easier to sweep up the bees.

Caging the Queen to Keep Down Increase.

To keep down increase I would like to try the plan of caging the queen. I use the 10-frame Simplicity-Root hive.

1. What style and most convenient cage should be used?

2. In what part of hive (or brood-chamber) and in what manner, should the caged queen be placed?

3. I presume the swarm is returned, and queen-cells cut out then; and also cut out again 5 days afterward; and finally, in 5 more days, again destroyed and the queen releast?

4. In case swarming has been delayed, and a young queen should have emerged, when the swarm issued, should said young queen be destroyed, or taken away?

OREGON.

ANSWERS. 1. When I followed the plan of management I learned from Mr. Doolittle, I used a very simple little cage of my own devising, which cost less than a cent for material and was easily made. Take a pine block 5x1x½ inch, and wrap around it a piece of wire-cloth 4 inches square. The wire-cloth is allowed to project at one end of the block a half inch. The four sides of this projecting end are bent down upon the end of the stick and hammered down tight in place. A piece of fine wire about 10 inches long is wrapt around the wire-cloth, about an inch from the open end, which will be about the middle of the stick, and the ends of the wire twisted together. Then pull out the block, trim off the corners of the end a little so that it will easily enter the cage, slide the stick in and out of the cage a number of times so that it will work easily, and the thing is complete. When not in use the block is pusht clear in, so as to preserve the shape of the cage. Such cages can be carried in the pocket without danger of being injured.

2. The best place is between two combs in the brood-nest. It is more convenient, however, for the first 5 days, to put the caged queen in at the entrance, far enough in so there will be no danger of the bees deserting her if a cool night should come.

3. No, no attention was paid to queen-cells till 5 days ensued, then they were cut out, and 5 days later, (10 days after the issuing of the swarm) the cells were again cut out and the queen liberated.

4. I never had a case of the kind. Unless the old queen were especially valued it might be better to leave the young queen.

Feeding Bees in Winter.

When I come to put my bees into the cellar I find, by weighing them, some are too light to winter. I have 80 colonies, and about 20 will need feeding. How can I best feed them in the cellar? The light ones are all on top, so I can get at them easily. I have a few frames of honey, also some frames of hard candy that I have prepared. Can I give them these, or would I better give sugar syrup? How would I better feed them, and when? Now, or wait till toward spring? I would prefer doing it now if it is just as well. WISCONSIN.

ANSWER.—Don't feed syrup in winter. Use the combs of honey and the candy. It is just as well if not better to feed right away. Very quietly remove the outside comb or combs at one side, so that you can put the frame of honey or candy right next to the bees. The bees will do the rest. Of course you will not use any smoke. If your work is carefully done you will have no trouble.

When to Put Bees Into the Cellar.

Is this a good time to put bees into the cellar? They had a good flight Nov. 5. NORTHERN ILLINOIS.

ANSWER.—I don't know, and I'd give a good deal to find the man that does know. My bees had a flight the same time as yours, and the right thing was to put them into the cellar Nov. 6, if Nov. 5 is to be the last day they can fly. If, however, they have a chance to fly again within the next 6 weeks, they're better off to stay out till then. The trouble is that no one can be certain about it. I think mine will stay out till late in November if they do not have a chance to fly before then, and if they are put in then without a chance to fly, I shall wish very much that they had been put in early in the month. But it is a very unusual thing that bees do not have a chance to fly later than Nov. 5, only happening once, I think, in a great many years.

Getting Extra-Large Colonies by Artificial Heat.

Is it practicable or desirable in forming extra-large colonies, to use artificial heat on the outside of the bottom and back of the brood-chamber (those parts of the brood-chamber being a single board, the rest being double and filled)? If so, within what limits, it being understood that the heat is to be uniform? CALIFORNIA.

ANSWER.—I doubt the advisability of anything of the kind. At one time Mr. A. I. Root was quite enthusiastic about advancing a colony in spring by means of artificial heat, and he made a sort of hotbed about it. If I remember correctly, the colony petered out—at any rate, the proceeding was a damage to the colony.

Please send us Names of Bee-Keepers who do not now get the American Bee Journal, and we will send them sample copies. Then you can very likely afterward get their subscriptions, for which work we offer valuable premiums in nearly every number of this journal. You can aid much by sending in the names and addresses when writing us on other matters.

Langstroth on... The Honey-Bee

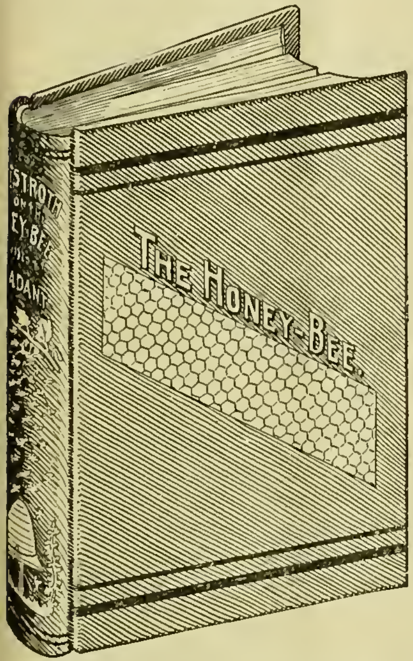
Revised by Dadant—1899 Edition.

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. It is bound substantially in cloth, and contains over 500 pages, being revised by those large, practical bee-keepers, so well-known to all the readers of the American Bee Journal—Chas. Dadant & Son. Each subject is clearly and thoroly explained, so that by following the instructions of this book one cannot fail to be wonderfully helpt on the way to success with bees.

The book we mail for $1.25, or club it with the American Bee Journal for one year—both for $1.75; or, we will mail it as a premium for sending us **THREE NEW** subscribers to the Bee Journal for one year, with $3.00.

This is a splendid chance to get a grand bee-book for a very little money or work.

GEORGE W. YORK & CO.
118 Michigan Street, CHICAGO, ILL.



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This foundation is made by an absolutely non-dipping process, thereby producing a perfectly clear and pliable foundation that retains the odor and color of beeswax, and is free from dirt.

Working wax into foundation for cash, a specialty. Write for samples and prices.

A full line of Supplies at the very lowest prices, and in any quantity. Best quality and prompt shipment. Send for large, illustrated catalog.

GUS. DITTMER, Augusta, Wis.
Beeswax Wanted.

Please mention Bee Journal when writing.

GENERAL ITEMS

Cellaring the Bees.

We are having a blizzard and excessive cold weather. We must put our bees into the cellar at once, for if we do not take good care of them we will not have any honey to ship next season. We have 400 colonies in good condition for winter quarters, and if they winter well (as they always do,) and with the usual amount of bloom and proper atmospheric conditions, we hope to have a greater amount of honey to sell next year.

ADA L. PICKARD.
Richland Co., Wis., Nov. 17.

A Short Report.

Over a year ago I started with one colony which increast to four, but I got no honey. I put the four into winter quarters, but lost two before spring, so I had only two left, which increast to three the past season, and I secured two cases of section honey.

I like the Bee Journal very much.

H. H. FISHEL.
Richland Co., Wis., Nov. 12.

Honey-Can Experience.

I have been a good deal interested in the discussion which has occurred at different times in the American Bee Journal in regard to the best package in which to ship extracted honey. Some favored barrels, and quite a goodly number advocated the use of the 60-pound tin cans, cased in wooden boxes, two cans in a box.

I have shipt a good many tons of ex-

IT COST US $4,000 Costs You 15c

CYPHERS
SELF SUPPLIED MOISTURE.
SELF-REGULATING.
SELF-VENTILATING.

We have spent $4,000 on our new book, "How to Make Money with Poultry and Incubators." It tells it all. Leading poultry men have written special articles for it. 192 pages, 8x11 in. Illustrated. It's as good as **Cyphers Incubator** —and it's the best. Out hatch any other machine. 16 page circular free. send 15 cts. in stamps for $4,000 book No. 50

Address nearest office. **CYPHERS INCUBATOR CO.**
Chicago, Ill. Wayland, N. Y. Boston, Mass.

Please mention Bee Journal when writing.

BEE-SUPPLIES.

Muth's Square Glass Honey-Jars.
Send for Catalog.

HONEY AND BEESWAX WANTED.

C. H. W. WEBER,
42Atf 2146 Central Ave., Cincinnati, Ohio.
Please mention Bee Journal when writing.

Best on Earth

What? Our New Champion Winter-Cases. And to introduce them thruout the United States and Canada we will sell them at a liberal discount until Oct 15, 1900. Send for quotations. We are also headquarters for the NO-DRIP SHIPPING-CASES.

R. H. SCHMIDT & CO.
Sheboygan, Wisconsin.

Please mention Bee Journal when writing.

Extracted Honey For Sale!

Case of two cans White Alfalfa, weighing 122 pounds net, for $8.50, f. o.b.

H. L. WEEMS, Lemoore, Calif.
47A4t Please mention the Bee Journal.

DR. PEIRO,
34 Central Music Hall, CHICAGO.

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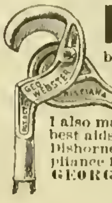
Be Kind to Stock

by humanely dishorning them only with the quick, smooth cutting

Convex Dishorner.



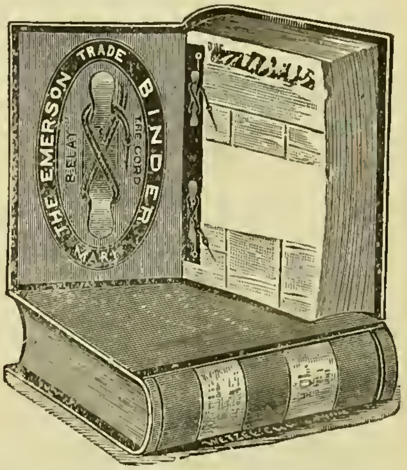
I also make the Bucker Stock Holder, one of the best aids to dishorning, and two other styles of Dishorners, one for calves. Every approved appliance for this work. **Send for FREE book.**
GEORGE WEBSTER, Box 123, Christiana, Pa.
Western trade supplied from Chicago.

Please mention Bee Journal when writing.

The Emerson Binder

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

GEORGE W. YORK & CO.,
118 Michigan Street, CHICAGO, ILL.



FOR SALE!

Best Extracted Alfalfa Honey

Guaranteed absolutely Pure Bees' Honey. Packt in 5-gallon tin cans, of about 60 pounds each, two cans to the case, 7½ cents per pound, cash with order. Buy direct from the home of Alfalfa. We can please you. Headquarters for ALFALFA and SWEET CLOVER SEED. Write for prices. **Vogeler-Wiedemann Co.,** 60-62 W. First So. St., SALT LAKE CITY, UTAH.

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Belgian Hare Guide AND DIRECTORY OF BREEDERS. Price 25c
Inland Poultry Journal Co., Indianapolis, Ind.

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FREE FOR A MONTH....

If you are interested in Sheep in any way you cannot afford to be without the best Sheep Paper publisht in the United States.

Wool Markets and Sheep

has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.

WOOL MARKETS AND SHEEP, CHICAGO, ILL.

BEES QUEENS
Smokers, Sections,
Comb Foundation
And all Apiarian Supplies
cheap. Send for
FREE Catalogue E. T. FLANAGAN, Belleville, Ill.

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SPECIAL NOTICE!

Last winter's cut of basswood is the whitest it has been for many seasons. We are now making sections out of this new stock and therefore are in a position to furnish you with the very finest quality in the market.

LEWIS WHITE-POLISHT SECTIONS

Are perfect in workmanship and color.

Orders shipt immediately upon receipt. A complete line of everything needed in the apiary. Five different styles of Bee-Hives.

Lewis Foundation Fastener simplest and best machine for the purpose. Price, ONE DOLLAR, without Lamp.

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AGENCIES:
L. C. Woodman..........Grand Rapids, Mich.
Fred Foulger & Sons..........Ogden, Utah.
E. T. Abbott, St. Joseph, Missouri.
Special Southwestern Agent.

SEND FOR CATALOG.

Please mention Bee Journal when writing

26 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 26 cents a pound—CASH—for best yellow, upon its receipt, or 28 cents in trade. Impure wax not taken at any price. Address as follows, very plainly,

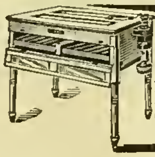
GEORGE W. YORK & CO., 118 Michigan St., CHICAGO.

California! If you care to know of its Fruits, Flowers, Climate or Resources, send for a sample copy of California's Favorite Paper—

The Pacific Rural Press,

The leading Horticultural and Agricultural paper of the Pacific Coast. Publisht weekly, handsomely illustrated, $2.00 per annum. Sample copy free.

PACIFIC RURAL PRESS,
330 Market Street. - San Francisco, Cal.



200-Egg Incubator for $12.00

Perfect in construction and action. Hatches every fertile egg. Write for catalogue to-day.
GEO. H. STAHL, Quincy, Ill.

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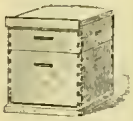

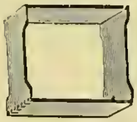

Bee-Hives and Honey-Boxes

in car lots, wholesale or retail. Now is the time to get prices. We are the people who manufacture strictly first-class goods and sell them at prices that defy competition. Write us to-day.

Inter-State Box and Manufacturing Company,
HUDSON, WIS.

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Have You Either an Orchard or Garden?

Have you anything to do with either Fruits or Vegetables? Then keep in touch with your work by subscribing for the

American Fruit and Vegetable Journal

Publish at
713 Masonic Temple....
CHICAGO, ILL.

Sample copy free. Mention this paper.

I have before me a copy of the American Fruit and Vegetable Journa, which I like pretty well. It fills the bill better than any paper I have seen lately. Ira C. Tracy, Foreman in the Home Nurseries.

I was much pleased to receive your publication. It is a very neatly printed and well edited journal, and merits success. D. W. Barkley, Editor of the "Rocky Ford Enterprise."

All departments of the Fruit and Vegetable business discust by practical and experienced persons.

FREE! We will send the above Journal absolutely FREE for one year as a premium to all old subscribers sending us $1.00 to pay their subscription one year strictly in advance. Both papers for the price of one. Send your renewal subscription to this office while this offer is open. Both papers, $1.00.

AMERICAN BEE JOURNAL, 118 Mich. St., Chicago, Ill.

Please mention the Bee Journal when writing Advertisers.

tracted honey during the last 10 years, and have always used barrels, and never had any complaint of leakage. You can judge of my surprise, perhaps, when I opened the box containing two cans of honey which I bought recently, and which I have just received, to find one of the cans had leakt. The cans must have been ruptured soon after being shipt, as there was a layer of honey on the bottom and some on two sides of the can that was candied quite thick, and what remained in the box was in the same condition. The top of the can is torn from the side where it was soldered, and the side of the can is somewhat kinkt at that edge.

When the cans were weighed, the full one weighed 63 pounds, and the other 42 pounds, showing a loss of 21 pounds. I opened both of the cans to see the condition of the honey, and both were candied quite hard.

David Hall.

Wyoming Co., N. Y., Nov. 13.

[We have known several instances this year, of tin cans breaking, and thereby causing a loss of honey. They were poorly made cans, and should not have been used in the first place. Of course, a poor tin can is almost as bad as a leaky barrel, only with a can there can't more than 60 pounds of honey get away, while with a barrel—well, it depends upon its size.—Editor.]

Dividing—Cheap Bee-Feeder.

Last fall I bought 12 colonies of bees but was robbed out. I tried dividing but made a bad job of it. Some colonies didn't have queens, some queens didn't lay, and some swarmed and made the parent colonies too weak, so

Sharples Cream Separators: Profitable Dairying

Strong, Healthy Chicks

are hatched by our incubators, and more of them than hens can hatch. Why? Because our regulator never fails to keep the heat just right. Catalogue printed in 5 languages gives full descriptions, illustrations and prices, and much information for poultry raisers. Sent for 6 cents.

DES MOINES INCUBATOR CO.,
Box 73 Des Moines, Ia.

Please mention Bee Journal when writing

BEE-SUPPLIES!

Root's Goods at Root's Prices

Pouder's Honey-Jars and everything used by bee-keepers. Prompt Service—low freight rate. Catalog free. WALTER S. POUDER,
512 Mass. Ave., Indianapolis, Ind.

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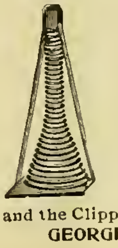


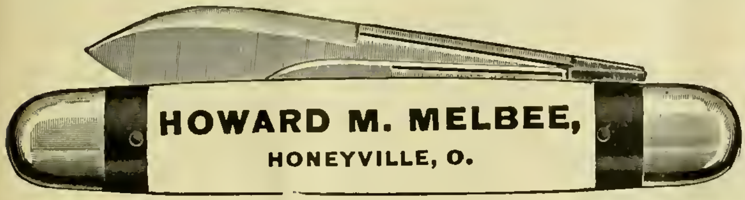
Queen-Clipping Device Free....

The Monette Queen-Clipping Device is a fine thing for use in catching and clipping Queens wings. We mail it for 25 cents; or will send it FREE as a premium for sending us ONE NEW subscriber to the Bee Journal for a year at $1.00; or for $1.10 we will mail the Bee Journal one year and the Clipping Device. Address,

GEORGE W. YORK & COMPANY,
118 Michigan St., Chicago, Ill.

The Novelty Pocket-Knife.

Your Name and Address on one side—Three Bees on the other side.



[This Cut is the Full Size of the Knife.]

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and in case of death, your relatives will at once be notified of the accident.

How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

How to Get this Valuable Knife.—We send it postpaid for $1.25, or give it as a Premium to the one sending us THREE NEW SUBSCRIBERS to the Bee Journal (with $3.00.) We will club the Novelty Knife and the Bee Journal for one year, both for $1.90.

GEORGE W. YORK & CO., 118 Mich. St., Chicago, Ill.

☞Please allow about two weeks for your knife order to be filled.

this fall I doubled them up until now I have 15 colonies. I secured only 150 pounds of honey. I think I will let them swarm after this.

It is very warm here now, and bees are flying every day.

On page 698 Iowa asks how to make a bee-feeder. This is the way I made one: I took a 2x4 16-inch board, sawed notches in it, and nailed ¼-inch strips on the sides, then poured hot wax into the cracks. I put a cover on it, and bored a hole ¼ inch from the top of the feeder, in which I put a tin spout. Then I set it in the top of a super, and filled up the super with chaff. Next spring I can feed by just taking the cover off.

D. H. Keller.

Jefferson Co., Colo., Nov. 12.

A Poor Year for Bees.

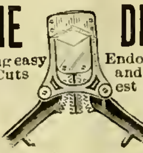
My bees came thru last winter alive, but few in a hive. The cold weather the last of April and all thru May was a stunner, but most of my 85 colonies survived and filled their hives with apple-bloom honey and brood, so they were in fair condition for white clover

PATENT WIRED COMB FOUNDATION
Has no Sag in Brood-Frames.

Thin Flat-Bottom Foundation
Has no Fishbone in the Surplus Honey.
Being the cleanest is usually workt the quickest of any foundation made.

J. A. VAN DEUSEN,
Sole Manufacturer,
Sprout Brook, Montgomery Co., N.Y.

KEYSTONE DEHORNER



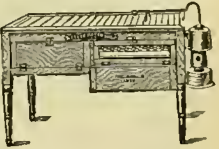
Makes dehorning easy and painless. Cuts on four sides at once. It never bruises nor crushes. Send for circulars.

Endorsed by colleges and experts. Highest award World's Fair. Most humane because the quickest and easiest.

M. T. PHILLIPS, Pomeroy, Pa., (Successor to A.C. BROSIUS).

Please mention Bee Journal when writing.

INCUBATORS FOR THE FARM



must be simple in operation, sure in results. That's the **SURE HATCH INCUBATOR.** anybody can run it, because it runs itself. Send for our free catalog and see for yourself how very successful it has been on the farm. It also describes our **Common Sense Folding Brooder.** We Pay the Freight.

SURE HATCH INCUBATOR CO., Clay Center, Nebraska.

GINSENG—Book all about it 4c. Tells how to grow this great money maker.
Write to-day. AMERICAN GINSENG GARDENS, Rose Hill, N. Y.

38E8t Mention the American Bee Journal.

326 FIRST PREMIUMS

SEND FOR FREE CATALOGUE.

Prairie State Incubator Co.
Homer City, Pa.

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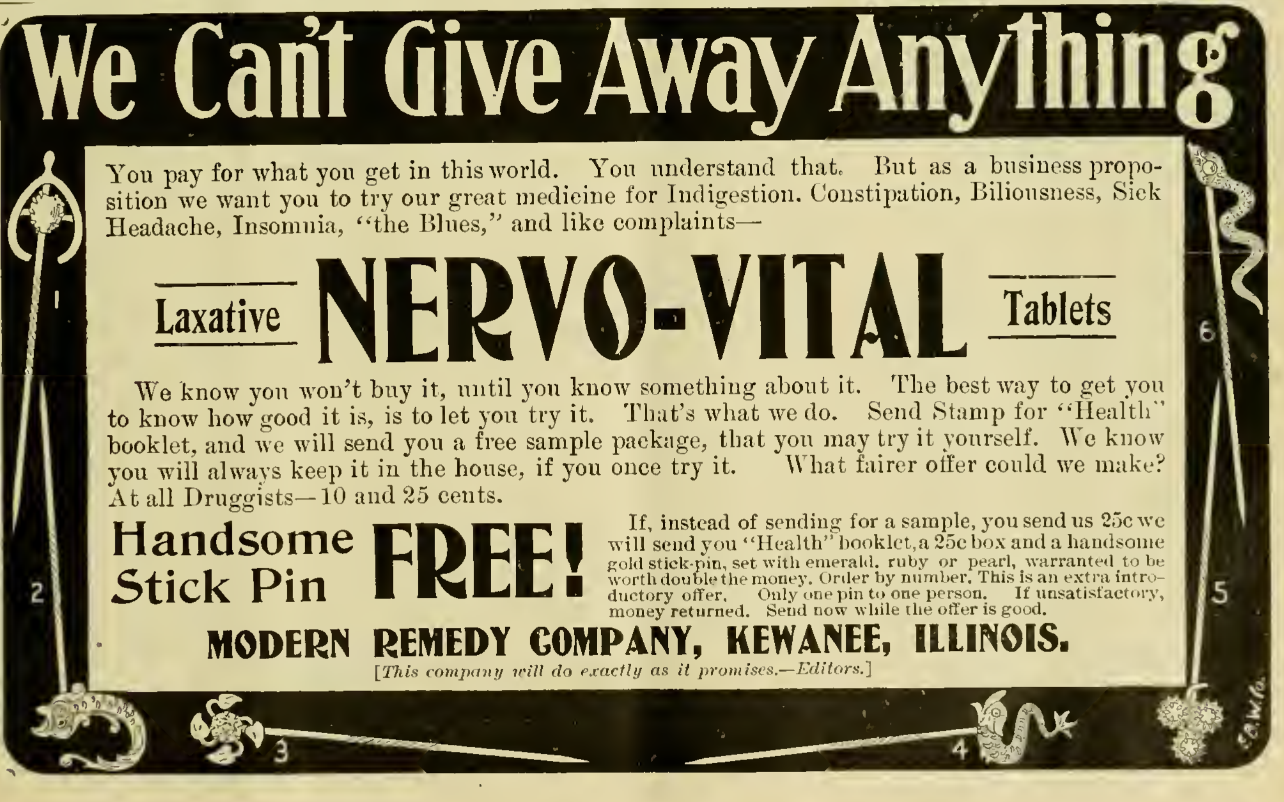


We Can't Give Away Anything

You pay for what you get in this world. You understand that. But as a business proposition we want you to try our great medicine for Indigestion. Constipation, Biliousness, Sick Headache, Insomnia, "the Blues," and like complaints—

Laxative NERVO-VITAL Tablets

We know you won't buy it, until you know something about it. The best way to get you to know how good it is, is to let you try it. That's what we do. Send Stamp for "Health" booklet, and we will send you a free sample package, that you may try it yourself. We know you will always keep it in the house, if you once try it. What fairer offer could we make? At all Druggists—10 and 25 cents.

Handsome Stick Pin FREE!

If, instead of sending for a sample, you send us 25c we will send you "Health" booklet, a 25c box and a handsome gold stick-pin, set with emerald, ruby or pearl, warranted to be worth double the money. Order by number. This is an extra introductory offer. Only one pin to one person. If unsatisfactory, money returned. Send now while the offer is good.

MODERN REMEDY COMPANY, KEWANEE, ILLINOIS.

[This company will do exactly as it promises.—Editors.]

and basswood. When at the close of the latter the dry, hot weather struck this locality, our honey season was over, altho buckwheat was yet to come, but we were so badly scorcht that when the buckwheat flow was over, all my bees and myself as well, were amazed to find that all we had to depend upon for the next 8 months was nearly 500 pounds of white honey, and less than 200 pounds of buckwheat; but, fortunately for all concerned, my bees stored the nicest clover and linden honey this year I ever saw, most of which I sold in my home market for 20 cents a pound. D. F. BLIGHTON.

Fulton Co., N. Y., Nov. 15.

Preparing the Bees for Winter.

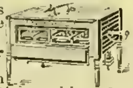
I started last spring with 8 colonies, have increast to 17, and have sold $15 worth of honey, besides having plenty for home use in a family of four. I just finisht putting them away for the winter yesterday. I winter them outdoors, and this is the way I did:

I built a shed 8 feet wide and 32 feet long, out of rough lumber, and covered it with grooved roofing. It is 5 feet on the lower side, and 7 on the upper side. I used four 2x8 joists, and nailed 2x4's on the edges so they were the width of the hive, and 20 inches apart. I set the hives on them after filling with straw as tight as I could pack it, then I packt straw between the hives and over back of them, also put on a "Hill's device," made out of barrel staves, then put a piece of muslin over the device, and a super on, and then filled it with clover chaff. When the weather gets colder I will put on more straw, but I will keep the fronts of the hives exposed to the weather so the bees can fly out whenever the weather is warm enough to fly. What do you think of that way? Will they get too warm?

FRED TYLER.

Mason Co., Ill., Nov. 17.

WE MAKE INCUBATORS that hatch strong, healthy chicks and lots of them. Our faith in these facts is such that we send you our **NEW PREMIER** Incubator ON TRIAL



You put the eggs in it and make a hatch for yourself. When you have tried it thoroughly and are satisfied, you pay us for it. Isn't that the sensible way to buy and sell incubators? Send 5c stamp for Catalog & "Poultry Helps."

We are also sole makers of Simplicity Incubator.

COLUMBIA INCUBATOR CO., 5 Water St., Delaware City, Del.

CONVENTION NOTICES.

Minnesota.—The 12th annual meeting of the Minnesota Bee-Keepers' Association will be held in Plymouth Church, cor. 8th Street and Nicollet Ave., Minneapolis, Minn., Wednesday, Thursday and Friday, Dec. 5, 6, and 7, 1900. An excellent program is prepared and a good time promist. The Horticultural Society meets at the same time and place. Purchase railroad tickets to their society, taking a certificate for the amount paid, and if 100 certificates are secured a reduction to one-third fare for the return trip can be had.

DR. L. D. LEONARD, Sec.

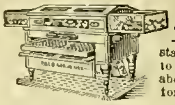
Syndicate Block, Minneapolis, Minn.

Ontario, Canada.—The annual meeting of the Ontario Bee-Keepers' Association will be held at Niagara Falls, Ont., Dec. 4, 5, 6, next. There is a very good program arranged, and we feel confident there will be a pleasant and profitable meeting. A hearty invitation is extended to all bee-keepers to attend, and we hope to have many of the United States bee-keepers present.

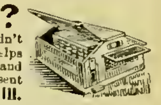
Streetsville, Ont. W. COUSE, Sec.

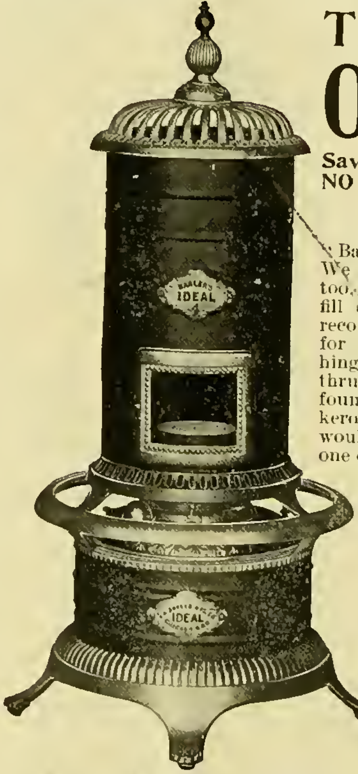
New York.—The Ontario County Bee-Keepers' Convention will be held in Canandaigua, N.Y., Dec. 13 and 14. There will be a bee-keepers' institute in connection with the same, and Editor W. Z. Hutchinson has been engaged to attend.

Naples, N.Y. FRIEDEMANN GREINER, Sec.



ARE YOU MAKING MONEY?—Out of your poultry we mean. If not, there is something wrong. May be you didn't start right. We have a book called the **20th CENTURY POULTRY BOOK** which helps to start poultry people right and then keeps them right. Tells all about the business and about the best—**Reliable Incubators and Brooders**—used all over the world. Book sent for **10c.** Order at once. **Reliable Incubator and Brooder Co., Box B-2 Quincy, Ill.**





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Price, f.o.b. Chicago, **$6.00**; or, **combined with a year's subscription** to the American Bee Journal—**both for only $6.50.** FULL DIRECTIONS GO WITH EACH STOVE.

If you want something that is really serviceable, reliable, and thoroly comfortable, you should get this "Barler Ideal" Oil Stove, as it can easily be carried by any woman from one room to another, and thus have all the heat you want right where you want it.

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(See description of Post Fountain Pen, American Bee Journal, Nov. 15th, page 730.)

Gleanings in Bee-Culture	$1.00
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" " " " and Cosmopolitan	5.50	3.50
" " " Pearson's and Cosmopolitan	5.50	3.25
" Success, McClure's, and Cosmopolitan	4.00	2.75
" " Pearson's, and McClure's	4.00	2.75
" " Cosmopolitan, and Pearson's	4.00	2.50
" " and Cosmopolitan	3.00	2.00
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" " and McClure's	3.00	2.25
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" and Success	2.00	1.50
" and Cosmopolitan	2.00	1.50
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Am. Poultry Advo. Poultry Keeper. Rel. Poultry Jour. Poultry Monthly. Am. Poultry Jour. Farm Poultry. Farm and Home. Farm & Fireside. Ag. Epitomist. Prairie Farmer. Farm Journal.	Success. Woman's Home Comp. Ohio Farmer. Mich. " Practical " Kansas " Indiana " Cosmopolitan. Pearson's.	Munsey's. McClure's. Rural New Yorker. Nat. Stockman and Farmer.	American Gardening. Christian Herald Post Fountain Pen.	Review of Reviews. Country Gentleman. Youth's Companion. Orders for these three must be for new subscribers.	Pacific Rural Press. Country Gentleman (renewal.)

* These prices are not the publishers' prices for these papers, but they are our special reduced prices when taken in connection with GLEANINGS. In many cases they are just one-half the regular rate.

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1. Gleanings in Bee-Culture, one year, $1.00.
2. If you want only one additional paper, add the price found in the top of the column in which that paper appears. For instance: Gleanings, and Success (2d col.) will cost you $1.50.
3. If you want several papers in addition to Gleanings, each one may be had at the price named at the top of the column. For instance: Gleanings, Success (2d col.) and Rural New-Yorker (3rd col.) will cost you $2.25.
4. You may select as many papers from each column as you wish.
5. Every order sent us must include Gleanings.

CONDITIONS.—Offers subject to withdrawal Dec. 31, 1900. Subscriptions to the Review of Reviews, Youth's Companion, and Country Gentleman must be strictly new. New subscriptions sent for Success, Youth's Companion, or Gleanings will receive the balance of this year free. Neither the Review of Reviews nor Post Fountain Pen will be sent in any combination amounting to less than $2.50.

CHRISTMAS PRESENTS.—We will send all papers or pen to one or separate addresses, as desired. In this way you can easily make desirable Christmas Presents.

THE A. I. ROOT CO., Medina, Ohio.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Nov. 24.—There is a demand for fancy white comb honey at 16c that takes all of this grade upon arrival; other grades are less active, with No. 1 white at 15c; amber and travel-stained white ranges from 13@14c, with dark amber and buckwheat comb 10@12c. Extracted, white, 7½@8c; amber, 7@7½c; dark grades, including buckwheat, 6½@6¾c. Beeswax, 28c. R. A. BURNETT & Co.

KANSAS CITY, Nov. 16.—Fancy white comb, 15@16c; No. 1 white, 14@15c; amber, 12@13c; dark, 8@9c. Extracted, in 5-gallon cans, white, 7½@9c; amber, 7@8c. Receipts light.
W. R. CROMWELL PRODUCE CO.,
Successors to C. C. Clemons & Co.

BUFFALO, Nov. 16.—Fancy white comb remains at 17@18c mostly, with rather larger receipts. Common selling at 12@16c. Possibly some lots poor enough to go less. We believe the high prices will curtail consumption. Extracted never sells well in Buffalo, but a little might sell at 8@9c in fancy shape.
BATTERSON & CO.

ALBANY, N.Y., Nov. 17.—Fancy white, 17@18; No. 1, 15@16c; mixt, 13@14c; fancy buckwheat, 13@14c; No. 1, 12@13c; mixt, 12c. White extracted, 8½@9½c; mixt, 8@9c; buckwheat, 6½c.
Honey market still firm with good demand; light receipts at high prices, especially for comb honey of all grades. H. R. WRIGHT.

BOSTON, Nov. 19.—Our market on honey continues strong, with light receipts. Fancy one-pound cartons, 17c; A No. 1, 15@16c; No. 1, 15c; No. 2, 12@13c. Extracted from 7½@8½ cents, according to quality. Beeswax steady at 25@27c.
BLAKE, SCOTT & LEE.

CINCINNATI, Sept. 21.—The demand for fancy comb honey is good and finds ready sale at 16@16½c; No. 1, 15c. The demand for extracted honey at present is slow and offer same by the barrel as follows: White clover, 8½@9c; Southern, 6½@7½c; Florida, 7@8 cents, according to quality. Beeswax, 27c.
The above are MY SELLING PRICES. I do not handle any honey on commission, but pay spot cash on delivery. C. H. W. WEBER.

NEW YORK, Nov. 20.—Good demand continues for all grades of comb honey We quote: Fancy white, 15@16c; No. 1 white, 14c; No. 2 white 12@13c; amber, 12c; buckwheat, 10@11c. Extracted in fairly good demand at 7½@8c for white, and 7c for amber; off grades and Southern in barrels at from 65@75c per gallon, according to quality. Not much demand for extracted buckwheat as yet. Some little selling at 5½@6c. Beeswax firm at 28 cents.
HILDRETH & SEGELKEN.

DETROIT, Nov. 22—Fancy white comb, 15@16c; No. 1, 13@14c; dark and amber, 10@12c. Extracted, white, 8@8½c; light amber, 7@7½c; dark, 6@6½c. Beeswax, 26@28c.
M. H. HUNT & SON.

SAN FRANCISCO, Nov. 7.—White comb, 13@14 cents; amber, 11½@12½c; dark, 8@9c. Extracted, white, 7½@8c; light amber 6¾@7¼c; amber, 5½@6½c. Beeswax. 26@28c.
Owing to slim stocks, business in honey of all descriptions is of necessity restricted to very small compass. High-grade water white, either comb or extracted, is especially scarce. Previous quotations remain in force, with market firm at these figures.

A HONEY MARKET.—Don't think that your crop is too large or too small to interest us. We have bought and sold five carloads already this season, and want more. We pay spot cash. Address, giving quality, quantity and price,
THOS. C. STANLEY & SON, Fairfield, Ill.

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What have you to offer and at what price?
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Please mention Bee Journal when writing.

For Sale 15 colonies of bees in good chaff hives; also a good farm.
46A3t ALBERT BAXTER, Muskegon, Mich.

—DO YOU WANT A—
High Grade of Italian Queens
OR A CHOICE STRAWBERRY?
Send for descriptive price-list.
D. J. BLOCHER, Pearl City, Ill.
47A26t Mention the American Bee Journal.

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OR ANYTHING YOU WANT IN THE BEE-KEEPING LINE.

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Crimson Clover	70c	1.20	2.75	5.00
Alsike Clover	80c	1.50	3.50	6.50
White Clover	90c	1.70	3.75	6.50
Alfalfa Clover	80c	1.40	3.25	6.00

Prices subject to market changes.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

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24A24t CHICAGO, ILL.

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Beeswax Wanted ✻ ✻ ✻

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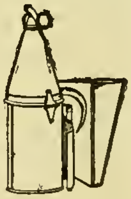

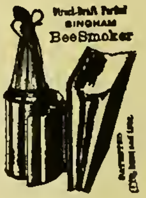

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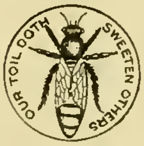
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AMERICAN BEE JOURNAL

GEORGE W. YORK,
Editor.

CHICAGO, ILL., DECEMBER 6, 1900.

FORTIETH YEAR.
No. 49.

WEEKLY

MR. A. I. ROOT, of Ohio,
Director of the National Bee-Keepers' Association.

THE AMERICAN BEE JOURNAL.

PUBLISHT WEEKLY BY

GEORGE W. YORK & CO.

118 Michigan St., Chicago, Ill.

'Entered at the Post-Office at Chicago as Second-Class Mail-Matter.

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McHenry Co., Ill.

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We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

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Index to the Chapters of the Book.

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AMERICAN
BEE JOURNAL
The Oldest Bee-Paper in America

40th YEAR. CHICAGO, ILL., DECEMBER 6, 1900. No. 49.

✻ Editorial Comments. ✻

A Helping Hand has been extended by British bee-keepers to a brother in trouble. Mr. Longley's bees stung men and team in an adjoining field, and Mr. Longley was sued and made to pay damages. Damages, costs, and lawyer's fee made him out of pocket altogether $45. Contributions were sent by bee-keepers to the British Bee Journal, and a check for $45 was sent Mr. Longley.

British bee-keepers are wiser in their generation than American. Some of the sums contributed were only 25 cents each, thus dividing the amount among so many that the burden was lightened. In this country there is sometimes a false pride that says, "If you can not give a large enough amount to look well in print, don't give anything."

Shall Extracting-Combs be Cleaned by the Bees? is a question undergoing consideration in Revue Internationale. So far as replies have been received, opinions are equally divided. In favor of putting away combs in the fall without having them lickt clean by the bees it is urged that moths are more troublesome if the combs are dry; that in putting away the combs in a moist state there is a saving of time, stings, and the danger of exciting robbing; and that when the combs are given the following year the bees are more prompt to occupy those with a residue of honey. On the other hand, it is urged that there is danger the molding and souring of the honey that remains; that it attracts mice and insects; and that dry combs may be given at leisure to the bees the next season without danger of exciting robbing.

Feeding Bees has had some discussion lately in Gleanings in Bee-Culture. J. E. Crane gives his way. If he were beginning all over again, he might prefer Miller feeders, but has on hand tin cans holding 6 pounds and 9 pounds each, and he uses these much after the old pepper-box plan. He melts the sugar on a stove, using 2 pounds of sugar to one of water. To prevent granulation, he adds liquid honey, or if he has not the liquid honey to spare, he adds one tablespoonful of vinegar to each 10 pounds of sugar, or to each 20 pounds of sugar if the vinegar is sharp.

Editor Root strongly prefers to use one pound of water to one of sugar. It makes a thinner syrup to start with, but the bees ripen or "invert" it more thoroly, and they will not invert one-to-two syrup. When they formerly used the one-to-two proportion, there was more or less granulating in the comb, but with one-to-one there is no granulation, and no need to use honey or acid. No need of cooking, just pour the proper quantities of sugar and water into the extractor can, and turn the reel till it is thoroly mixt. This can be done at the out-yards, saving the carrying of water.

Then Dr. Miller appears, and says he has a simpler plan. He pours the sugar in the feeder and then pours water on it, saving the trouble of putting in and taking out of the extractor. Editor Root objects that this leaves the feeder mest up with a residue of sugar or of crystals, and the only way to have it left lickt up clean by the bees is to have it thoroly mixt in the extractor. Dr. Miller says this is more easily, and perhaps better, accomplisht by pouring in a little more water at the last. Then Mr. Root suggests that the bees may not ripen or invert this as readily as if the whole had been thoroly mixt before being put in the feeder.

There is still room for something more to be said. What is the objection to having a few crystals remaining in the feeder? and does Mr. Root find it possible to have an entirely clean feeder when the syrup is slowly lowered, as in the Miller feeder which he uses, or in any feeder which does not allow the bees access to the inside of the feeder? Does he not find also that when water is poured upon the dry sugar in the feeder that more water will be taken by the bees, thus giving a better chance for inverting? In other words, if he finds that the bees invert better the one-to-one than the one-to-two syrup, will they not invert still better if the syrup is still thinner?

But Dr. Miller fails to notice, or at least to mention, that with this plan the greater amount of evaporation makes it necessary to do the feeding earlier than with the thoroly mixt one-to-one syrup. The beginner should be told that if he is late about his feeding, Mr. Root's is the safer plan, and that if he is very late Mr. Crane's is still safer. He should, however, be told that it is much better to feed as early as August or September, in which case Mr. Root's course is better than Mr. Crane's, and perhaps Dr. Miller's is still better.

The Sale of Comb-Foundation Machines in this country does not seem to be large. Probably fewer machines are sold now than some years ago. Most bee-keepers find it more satisfactory, and perhaps cheaper, to buy foundation than to make it. This is in markt contrast with the state of affairs in Europe. Of the Rietsche press alone, 17,000 have been sold since the first press was put on the market 17 years ago. One reason for the difference in the two countries is that in Europe some of the foundation put on the market is adulterated, while in this country such a thing is practically unknown.

A Big Honey-Yield is reported in the Progressive Bee-Keeper, John Krantz being the successful man, the year not being given. The colony had the range of a large apple-orchard, some apple-honey being stored in sections, until the colony swarmed the first of May. Both colonies then workt on apple bloom, and the first week in June both swarmed. From the colony and its increase Mr. Krantz obtained 1,600 pounds of comb honey, besides allowing his family with ten children all the honey they could eat.

The Weekly Budget.

THE NEW EDITOR of the Progressive Bee-Keeper, Will Ward Mitchell, starts in well, and it is not likely that the paper will suffer under his guidance. He is the man who has written so much excellent verse for the Progressive, his poems forming quite a feature of that journal. Success to him.

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THE CANADIAN BEE JOURNAL.—The literary shortcomings of contemporaries are not considered the best things with which to fill up the columns of a bee-journal, but it may not be greatly out of order to say that since W. J. Craig has taken the editorial chair of the Canadian Bee Journal, there has been a very gratifying improvement in the proofreading of that journal.

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BEE-KEEPERS' INSTITUTES are to be held at several places in the State of New York this month, as will be noticed by referring to the notices of conventions on another page of this issue. These ought to be very valuable gatherings for those bee-keepers who can arrange to attend them. We hope as many of our readers as possible will be present, and do what they can to make the institutes as helpful and interesting as may be.

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HON. EUGENE SECOR was a delegate to represent the Iowa State Horticultural Society at the Southern Minnesota Horticultural Society's meeting held at Austin, Minn., Nov. 21, 22, and 23, 1900. He was also to speak at the meeting of the Northeastern Iowa Horticultural meeting at Iowa Falls, Nov. 27, 28, and 29, his subject being "Desirable Flowering Shrubs and Plants." Mr. Secor is interested in establishing extensive greenhouses at his home—Forest City, Iowa—toward which he has been laboring for a year, now having arrangements made for beginning the work as soon as the weather permits next spring. About 6,000 feet of glass will be used, and hardy shrubs and perennials grown outside. Mr. Secor is a busy man, and is ingenious as well as a "Eugene-ius."

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MR. A. I. ROOT AND THE BEE JOURNAL.—Those who were familiar with the earlier volumes of the American Bee Journal will easily recall how its pages were enlivened by the spicy contributions of one who signed himself "Novice." The opportunity of thus appearing 12 times in a year seeming too narrow for "Novice," by the aid of a windmill he issued a little quarterly of his own, which grew, and grew, until it became the Gleanings in Bee-Culture of to-day with its 24 superbly illustrated issues every year—a journal that has made the name of A. I. Root a household word in the homes of bee-keepers all over the world. Having achieved a name and fame, it seems he might be content therewith. But he is not. He has not forgotten his old friends, and the wish in him is strong for increast success to others. Here is the way he talks in the number of Gleanings for Nov. 15th :

THE AMERICAN BEE JOURNAL.

Forty years ago next January, Vol. I., No. 1 of the American Bee Journal made its appearance under the management of our good friend Samuel Wagner. It continued one year; but there did not seem to be bee-keepers enough in our land to keep even one bee-journal running. If I am correct, the breaking-out of the war had something to do with letting it drop for a time.

When I "went crazy," however, on the honey-bee, because of the loss of that truant swarm I became so much interested in, I began rubbing my eyes and hunting up the bee-literature of the world. As soon as I found a bee-journal had been publisht I had every back number, and read them over and over day and night almost. How familiar those pages in regard to the Dzierzon theory look even now! and those strange stories of the wonderful natural history of the honey-bee awaken a thousand pleasant recollections even now as I glance over it. I enjoy even yet exploring new fields of science; but I am afraid the world does not contain any new field that I shall enjoy as much as my explorations in that observatory hive that stood in the window of my home.

Well, when I became acquainted with Langstroth and Wagner, there was no peace till they promist to get the American Bee Journal going again, for Mr. Langstroth seconded my exhortations. Well, it is *still* going; and when I glanced over the issue for Nov. 8, I really felt happy to see such a bright, wideawake, live publication, filled not only with valuable hints, but bright, hopeful, sharp witticisms.

The thing that troubles me most just now is the fear that our good friend York does not get pay enough for sending such a beautiful journal 52 times for the small sum of $1.00—not quite two cents for each issue. (At one time the American Bee Journal was $2.00 for only *12 issues.*) Why, Dadant's account of his trip thru Switzerland, alone is worth almost the subscription price for an entire year, to say nothing of the report of the Chicago convention. And it is not altogether bees. Friend York, as well as myself, got hold of that little item about having some land of your own. And the American Bee Journal is an excellent *family* paper. It is up to the times in standing out strong and fearlessly for good morals, temperance, and purity and honesty.

Now, if anybody sees this who has not subscribed for the "Old Reliable," let him make haste to give friend York a little encouragement in the shape of a subscription. This is from your old friend— A. I. R.

We hardly know what to say in response to the exceedingly kind words Mr. Root has written above, for it isn't possible for us to deserve them. At any rate, we take off our hat and make our best bow, with a sincere "Thank you," for all he has said.

No one knows any better than does Mr. A. I. Root what it means to get out a paper like the American Bee Journal every week in the year, and year after year. It is now about 16 years since we have been helping to get up and send out this journal, and we can testify that it means hustle all the time. But that is what we are here for, and if bee-keepers will continue to give us their hearty support, we will agree to do our best for them, so long as health and strength permit.

Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Upon receipt of $1.00 for your Bee Journal subscription *a full year in advance*, we will mail you a Wood Binder free—if you will mention it.

Please send us Names of Bee-Keepers who do not now get the American Bee Journal, and we will send them sample copies. Then you can very likely afterward get their subscriptions, for which work we offer valuable premiums in nearly every number of this journal. You can aid much by sending in the names and addresses when writing us on other matters.

Queenie Jeanette is the title of a pretty song in sheet music size, written by J. C. Wallenmeyer, a musical bee-keeper. The regular price is 40 cents, but to close out the copies we have left, we will mail them at 20 cents each, as long as they last. Better order at once, if you want a copy of this song.

The American Fruit and Vegetable Journal is just what its name indicates. Tells all about growing fruits and vegetables. It is a fine monthly, at 50 cents a year. We can mail you a free sample copy of it, if you ask for it. We club it with the American Bee Journal—both for $1.10.

Convention Proceedings.

Report of the Proceedings of the 31st Annual Convention of the National Bee-Keepers' Association, held at Chicago, Ill., Aug. 28, 29 and 30, 1900.

BY DR. A. B. MASON, SEC.

(Continued from page 761.)

Next on the program was the following address by Rev. Emerson T. Abbott, on

PURE FOOD LEGISLATION.

I want to say I will not afflict you with any paper. I may afflict you with something worse. Those who talk at random sometimes do worse than those who read papers to you. I hadn't time to prepare any paper on food legislation, and, in fact, I did not deem it necessary. I desire, however, to make a report of what work has been done by our representatives at the National Pure Food Congress, and offer a few suggestions with regard to food legislation.

In the first place, I may say that three years ago some gentlemen in Washington, who were purely unselfish and had no personal interests to serve, issued a circular and called together what was known as the National Pure Food Congress, or rather, what afterwards became the National Pure Food Congress. They agreed upon a basis of represention, issued the circulars at their own expense, and invited the people to come there and discuss the food question. Something like 300 people, representing the various productive industries of the United States, responded to that call, and your general manager and myself were sent as delegates from this society to represent the bee-keepers of the United States.

We met an exceedingly intelligent and interesting body of gentlemen, and the result was that the bee-keepers at once received prominent recognition in that food congress. The congress was organized, the proper officers were elected, and we mapt out a course of work. We took what was known then as the Brosius Bill, which had been drafted by Mr. Brosius, of Philadelphia, and a committee was appointed consisting of 25, of which I had the pleasure of being a member, to go over that bill. We went over it, item by item, and eliminated everything that we thought was objectionable, and agreed as a whole, and reported the bill back to the congress. The congress discust the bill, and after having made just two verbal changes in it, agreed to it as a whole; they then turned it over to one of the best lawyers in the city of Washington, and he examined it carefully; then they turned it over to the Secretary of Agriculture, and he examined it carefully and fully. It was placed in the hands of the committee to be presented to the House of Representatives and also to the Senate. The Pure Food Congress adjourned, and in a year from that time they met again. That wasa year ago last January. Our bill was still being discust, and the subject was still being agitated, but never had yet reacht the point of action. In fact, the committees which had the matter in charge in the House and Senate had never reacht an agreement, and no report had been made.

Last January we met again. I might say, however, that I was sent as a delegate a year ago in January, and last January I was sent again, this society having only one representative on the floor of the congress; last January we met again. Previous to last January everything had been harmonious. We had moved along smoothly; we had been a unit in representing the interests of the pure-food bill, known as the Brosius Bill. But there came up to Washington last year some very wise and intelligent gentlemen; they were dairymen, they said. One of them lives in Chicago; his name is Knight. He is a dairyman; he milks his cows by proxy, and he is in the employ of the National Dairy Association, and no doubt gets a fat salary, for he wore good clothes, and had the best around the hotel. There came along with him a Mr. Hoard, from Wisconsin, who, I believe, has been governor, and he is a dairyman; he milks the dairy people of the United States, and he had something to say. There was also a gentleman by the name of Adams, who is another milker; he milks the tax-payers of the State of Wisconsin, and secures a large salary. There came another gentleman from the State of New York; he was a milker—by the name of Flanders; he also milks the tax-payers of the State of New York, and he is a dairyman. There also came the honorable food commissioner of Ohio, who is another dairyman, for he milks the tax-payers of the State of Ohio, and he had the honor of being the president of the Pure Food Congress, and as their wisdom was superior to the combined wisdom of all those men who had come up the previous year and gone over the ground and discust the matter carefully, they wanted a new bill, and so up in Wisconsin, in a little room, Mr. Adams wrote a new bill, absolutely ignoring the Brosius Bill, and embodying some things that were absolutely obnoxious to all members except this little company.

With this bill in their pocket, and Mr. Babcock, of Wisconsin, to defend it, they came on the floor of the Food Congress determined to run it. You know some few sometimes think they run the world. We battled there for three days, *pro* and *con*, and made the fight with the chairman against us, and finally we routed the enemy. We had discovered a new difficulty in food legislation that we had never dreamed of before—never occurred to us that we should find enemies in our own camp, or that men would come there with the object of destroying all we had done during these years; but after the smoke cleared away, and the matter was all over, and we had gathered up the maimed, and the halt and the wounded, and the dead, that had come out of the conflict, we discovered that there was legion of us and exceedingly few of them, and we carried our point, and the bill known as the Babcock Bill is buried now in oblivion. But what was the result? These gentlemen said, No. If we can't have our way; if we can't displace the Secretary of Agriculture in the execution of this bill, and have a commissioner appointed as we want it—for we know that nobody but a commissioner can do it—why, we will not have anything; we will fight the Brosius Bill, and they did. One of their number went over before the Inter-State Commerce Committee (your speaker was one of the number appointed to address that committee in behalf of the bee-keepers), and they had the cheek and gall to stand up there and defend their bill, when they were appointed to urge the interests of the Brosius Bill; but the Inter-State Commerce Committee saw how things were, and they simply ignored their protest, and the result was the Brosius Bill was immediately favorably reported by the House Committee, and is now ready to be taken up for action; the Senate Committee is ready to report favorably upon it, I am informed. As soon as it can be gotten before the two Houses, we have no doubt but what it will pass, but we will have to meet all along the opposition of these gentlemen.

Now, then, I will tell you why I have given you this history. You have influence with your congressmen; the average congressman is a very busy man; the average congressman hasn't more than average intelligence; he doesn't claim to have, and he can't comprehend everything at once; he can't read up about everything. You haven't any idea, if you have never been to Washington and seen the congressmen besieged, how many people there are who have schemes and things that they want to push thru congress, and want their congressmen to do it for them, and they have not time to investigate all of these subjects.

Now, the reason I am presenting this matter to you is, that I want you to present the facts. When you get home I want you to go to your congressman, and state to him clearly, what I have stated, and say, "Now, it is the Brosius Bill, and no other bill, that we want you to push. The National Bee-Keepers' Association as a unit stands behind the Brosius Bill, and that is the bill the National Pure Food Congress wants pusht, and it covers the ground entirely, and you pay no attention to these little side-issues that will be crowded upon you, for they are simply put in that the bill may be beaten."

I will tell you the difference between the Brosius Bill and the other pure-food bills. The Brosius Bill recognizes the fact that every man, woman and child has rights; it also recognizes the fact that any industry that sails under its own colors has a right to exist, provided it can not be proven beyond the possibility of controversy that that industry is injuring the welfare of the human family. It doesn't propose to make any warfare on anybody; it doesn't propose to say that you shall put a placard up in your restaurant and say that glucose and honey mixt is served here, butterine is served to the people, or something else is served at clean tables which are not clean tables, and biscuits that have been poorly baked are served along with it. It is supposed the intelligent eater will know when he gets poor biscuit, and will know whether the class of the restaurant he patronizes is the class he wants to patronize in order to satisfy the cravings of his stomach, and it is not necessary to have a great number of labels stuck up all over the State, in various places where people eat, in order to execute the law. The Brosius Bill simply makes it a criminal offense to sell a man a thing for what it is not, just as the United States makes it a criminal offense to counterfeit a dollar. I have a silver dollar here in my hand. Now, the United States does not throw any restraint around my counterfeiting that silver dollar, doesn't even go so far as to explain what a counterfeit of that silver dollar is, but simply says in so many words, robbed of its technicality—we will let some of the lawyers put the technicalities in, and I will state the facts in so many words—"If you counterfeit that dollar, and we catch you at it, we will put you behind the prison bars." That is all; it doesn't lay any restraints, or say this thing, or that thing, or the other.

What is the use of enacting laws all over the country, in all the various States of the Union, that you shall not color a thing green, or that you shall not color it black, or it shall not be this color or that color; shall not be made to look like this thing or that thing. What is the use of that? What advantage is there in it? It is of advantage to a man who wants to sell something that is of the color that this other thing might be, of course; but that isn't what the Legislature is for; that isn't what laws are for; laws are to look after the common interest of all the people, not a *few* of the people, or *half* of the people, but *all* of the people. The only law we need in the shape of pure-food legislation is to make it a criminal offense to sell anything for what it is not.

If I come into your store and ask you for a pound of honey, and you give me a half pound of glucose and a half pound of honey, and you know it when you give it to me, and charge me for a pound of honey, you are a thief and a criminal, and you ought to be in the penitentiary. [Applause.] That is clear; you all understand that; there isn't any scientific phraseology about that, but what you can get thru your heads; that is clear and plain. A man who sells a thing for what it is not is a thief, a robber, and a criminal, and ought to be so treated; it doesn't make any difference whether he sells a carload of glucose or 15 cents worth of ice-cream, he is as much a criminal in one case as in the other; it is the intention and the theory which it embraces; that is all there is to it, and that is why we want you to support the Brosius Bill.

We thrasht the ground all over, fought the battle time and again, and simply settled down to this one proposition, that every man who pays his money for an article is entitled to get the thing that he expects to get when he gives his money. You trade a horse for a cow. Suppose the man should give you a donkey, and the donkey should be worth more than the cow that you were to get; but perchance you wanted the cow that you might milk her, and he would run in a $40 donkey instead of a $20 cow, and you or your wife would go out to get some milk at night—there would be trouble; not because you had been defrauded of your money. There might be reasons why the cow would be worth $40 to you, while she wouldn't bring more than $20 in the market.

Now, then, you ask me what you can do to help bring this about. I have already hinted what you can do; you can do a great deal; you can do more than you think you can. When I was a boy about 16 years old, I used to think that I would just give my eyes to look at the president. I thought if I could see a congressman it would be a wonder; I felt a certain kind of awe and a certain kind of reverence for them, and sometimes would step a little higher over the ground when I was talking about governors and presidents, and congressmen, than I did when I was talking about ordinary citizens and clodhoppers like I was myself, plowing corn. But after awhile I began to come in contact with these men; after awhile I had seen a governor or two, and they didn't look quite so magnificent as I thought they would—they had ordinary common mustaches, and sometimes their hats were good and sometimes they were not; sometimes they had on boots, and sometimes they did not; and sometimes they were kind of sleepy looking, and sometimes pretty sleek. I sized them up, and I said: "You are kind of human anyway, a little animal like myself; may be you have a little more possibly than I have, but you are an animal just the same as I am, anyway, and have all the animal propensities that other clodhoppers have."

After awhile I saw a president or two, and I began to have that same kind of feeling; after I had seen a good many congressmen I felt more and more that way; but I went up to Washington a few times, and I went into the legislative halls and I saw those men. I heard them talk, I met them face to face; I came in contact with them, and I discovered that they were men just like other men; they didn't know a great deal more than the average bee-keeper; they were susceptible to influences just like the average bee-keeper, and if they were good congressmen they made it a point to do the thing that their constituents wanted done, and they devoted as much time as they could to the interests of their constituents, and that they had to *learn* to be congressmen.

If this were a political meeting I would make a suggestion, and I will make it anyway if it is not. That is, don't forget the fact that it takes a man a little while to learn to be a congressman; it doesn't matter much about his politics. If you want him to be heard in Washington, see that he stays there a little while; don't send a new man every time there is an election; that isn't politics; but it is common sense. I have been up there; I know men who have gone there and staid 20 years. A man died while I was in Washington the last time; he had been in the House 20 years, and every man lifted his hat reverentially when he spoke his name. Twenty years of faithful service in the House! A congressman said to me, "When that man arose to talk they listened whether he had anything to say or not. He always had something to say because he had been there so long, because he knew what to say and when to say it."

But to go back to my subject: All you have to do if you want your congressman to do anything is to talk common sense to him. If you want a hired hand of yours to plow your field a certain way, and cut the furrow so wide, and make it so deep, and turn the grass over just so, why, you simply tell him, "I want this field plowed so and so," and he plows it that way. Go to your congressman when you get home—it won't hurt if you call him John, treat him just as you would your hired hand, that is all he is; we just pay him for doing the business. I often say to my wife about the man who does my little banking—I don't have much, and he is a millionaire several times over—I say, "I have got him hired to take care of the few dollars I have up there, and he is looking after it." Look at your congressman that way, with that kind of feeling, and make him understand that you mean something when you talk to him, and that you mean if he doesn't look after your interests, and do the things he ought to do, you will see that he doesn't go back there any more, without regard to politics; don't believe because he is a congressman, is a republican and you are a democrat, that he won't listen to you. If you are a republican and your congressman is a democrat, he will listen quicker; he wants to convince you, and *vice versa*. I tell you that they want to hear from their constituents, and they are just like a thermometer—they will bob up and down with the change in the weather when they hear from the people, just like the mercury bobs up and down when a cold norther comes sweeping in, and the temperature changes suddenly; they are just like thermometers, and they are very responsive, too. I presume I am not revealing any secrets; I am not telling a good many of you people anything new.

As Dr. Mason says, "If you don't believe what I am saying, just try it."

But now I think I have talkt long enough. It was not my intention to give you information or anything, but simply to make you think about the importance of this pure-food legislation. I would like to stand here and talk to you for a solid hour about the terrible curse of food adulteration. I will say just this much, that we have gone mad and crazy on the Almighty Dollar. The world has lost sight of grand moral principles and has given itself over to one grand scramble for money and gain [Applause]. And unfortunately we have all been so influenced that, the moment anything is broacht, we all stand up and say, "What is there in it for me?" Now, friends, we must get beyond that, and rise higher than that, and feel that life means something more than that. I believe in money; I get *all* the money I can, and I don't blame any man for doing it; in fact, I condemn the man who does not lay up something for his old age. I think it is wrong for many men to be poor. Many people squander their money, and they are criminal in the sight of God Almighty when they do it, for they leave their families to suffer on account of their squandering money when they ought to keep it and provide for those that God has entrusted to their care. Let us not live for that alone; let us not give our whole lives to the accumulation of a few paltry dollars, but let us feel that life means something; let us feel that it is worth something to feel we are honest and treating our fellow men right, and telling them the truth.

If I have a deal with a man, and give him what he expects to get, and get a good sound profit out of it, I don't feel any compunctions of conscience; but if I misrepresent, if I don't tell him all the facts, if I don't make the matter clear and plain so that he is thoroly satisfied, I can't sleep at night; I can't get over it; in some way those dollars burn in my pocket, and I feel as tho I had done a wrong thing; but when I can accumulate anything and do it honestly, and get a legitimate profit, that is all right and proper.

It seems to me that a man who sits down here in Chicago and mixes glucose with honey and labels it "pure clover honey," and sends it out into the States of Missouri, Kansas, and Iowa, and all over the United States, and has it sold for pure honey, and who knows it will be sold for pure honey, ought to have the nightmare so he could not sleep; the demons ought to chase him night and day. Just think of sitting down deliberately to defraud the people in a thing that they are to eat, and that is absolutely necessary in order to live! Why, I would just as soon think of cheating a man with regard to his grave-clothes, sell him a robe that was only cotton and claim it was silk; I would as soon think of doing it as I would to cheat a man in what he has to eat. But that is going on every day. Mr. York knows it; the whole city is full of it; our city is full of it. Here is an illustration:

I went into a store one day, pickt up a bottle—Mr. Root knows something about it, as I had it down in Philadelphia last year, and had it analyzed, and it was 75 percent glucose, labeled pure clover honey, purporting to be put up at Medina, Ohio. I went into the store and I said to the man—oh, he was a Christian man, takes a high stand with regard to morals, profest to be an example—I said: "I want to get just this much testimony. I want to know if these people down in Kansas City will say in black and white whether this honey does or does not come from Medina; would you have any objections to having your buyer ask that question that they might answer in black and white."

What do you think he said? Well, it was this: "I don't want to get mixt up with other people's business. I don't want to meddle with anything that doesn't concern me."

But, I said, "Sir, this does concern you; I bought this bottle of honey off your shelves, and the salesman who sold it to your buyer here, who doesn't know anything about honey, told him it was pure. Now, sir, what have you to say?"

He said, "Well, I will study about it;" and he is studying yet about it, hasn't anything to say; he hasn't the manhood; he hasn't the moral courage to come up and furnish the testimony that would send that man to jail, for proof of food adulteration would do it in Missouri. The people all over this country are winking at those things, and the time has come for us to stand for the truth and the right, whether it injures us or our neighbors. [Applause.]

EMERSON T. ABBOTT.

(Continued next week.)

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"The Hum of the Bees in the Apple-Tree Bloom" is the name of the finest bee-keeper's song—words by Hon. Eugene Secor and music by Dr. C. C. Miller. This is thought by some to be the best bee-song yet written by Mr. Secor and Dr. Miller. It is, indeed, a "hummer." We can furnish a single copy of it postpaid, for 10 cents, or 3 copies for 25 cents. Or, we will mail a half-dozen copies of it for sending us *one new* yearly subscription to the American Bee Journal at $1.00.

◆

The Chicago Convention Picture is a fine one. It is nearly 8x10 inches in size, mounted on heavy cardboard 10x12 inches. It is, we believe, the largest group of bee-keepers ever taken in one picture. It is sent, postpaid, for 75 cents; or we can send the American Bee Journal one year and the picture—both for $1.60. It would be a nice picture to frame. We have not counted them, but think there are nearly 200 bee-keepers shown.

◆

Queen-Rearing is a very interesting part of bee-keeping. Mr. Doolittle's book tells practically all about the subject. See the offer we make on the second page of this number.

Contributed Articles.

No. 7.—Interesting Notes on European Travel.

BY C. P. DADANT.

LEARNING that I was fond of visiting ancient establishments, which are rather a curiosity to a man coming from a new country like America, Mr. Bertrand proposed to show me the most interesting remains of olden times along the shores of Lake Geneva, at the same time giving me an opportunity of becoming acquainted with some of the most practical bee-keepers in the country.

"We will arrange for a visit to De Blonay to-morrow," he said one day. "Who is De Blonay?" "Mr. H. De Blonay is one of our oldest practical bee-keepers. He belonged to the first progressive bee-keepers' association in the country years ago; he is a retired civil engineer, living during the winter in Lausanne, and in the summer in the castle built by his ancestors in the eleventh century, four miles above the city of Vevey, some 30 miles from here. We will go by steamboat, take breakfast with the Blonay family, and come home late in the afternoon by rail."

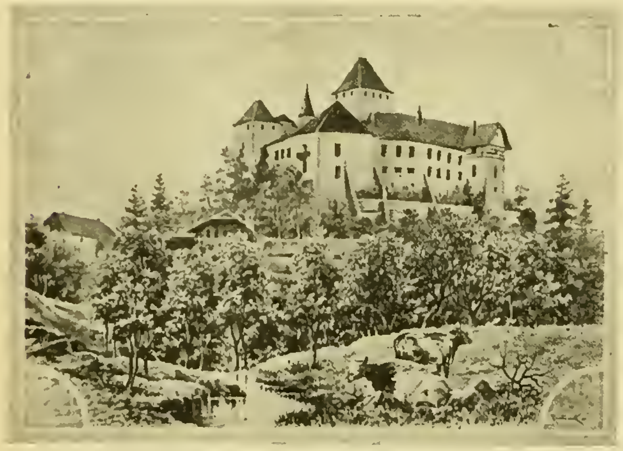
This was done. A call on the telephone by Mrs. Bertrand gave due notice of our coming, and we were informed that they would expect us without fail a little before noon the next day. Telephones are not so numerous in country places in Europe as they are here, but they are all long-distance instruments.

So on Saturday morning we left Nyon together—Mr. Bertrand, my daughter, and myself—on one of the swift steamers that ply back and forth on this deep, clear lake, so clear that you can see fishes 20 feet below the surface when the water is still. The waters of Lake Geneva reminded me of Sturgeon Bay, in Wisconsin, where one can see the fish bite at the hook eight or ten feet below the surface. But the view of Lake Geneva is beyond description. The boat stops a minute or two at each landing—pretty villages or large towns stretcht in the sun on the slope of the hills, with endless vineyards running back from the suburbs up to the pine forests above. In two or three hours we were at Vevey, a city of some six or eight thousand inhabitants, and a carriage was soon found to go to the castle.

I will note here that the city of Vevey was once inhabited by the great apiarist Huber, at least according to Bevan, who, however, spells the name "Vivai," but he evidently referred to this town, for Huber was born at Geneva, and lived at different spots along the north shore of the lake. It is remarkable that Switzerland has been the birthplace of several noted apiarists, among whom I can name Gelieu, and the famous Francois Burnens, the servant of Huber, who so faithfully and so earnestly helpt in his experiments. Without him Huber could have done but little, since he was blind, and his discoveries in the natural history of the bee might have remained ignored much longer.

The castle of Blonay, built as a fortress, and overlooking the neighboring village to which it gave its name, is on a steep eminence from which one sees the city of Vevey, the lake, and the mountains of Savoy. It is a romantic spot. High walls, towers, a 60-foot dungeon (useless today), an inner court, with walls covered with ivy, massive abutments here and there to keep the walls from falling outward, a dozen or more terraces to support these abutments; big apartments, a small chapel, a stone archt ogival stairway leading to the upper floors—everything here looks odd, antique, I would almost say fantastic. It is clear that when this was built the main thought was safety, not convenience. But civilization has shown its footprints, the more so as we are now in the most democratic country in the world, and with some of the most progressive people in that republic. The drawbridges have disappeared, the court opens to all comers. The old stone ogival stairway which must have once resounded with the armors of steel that we saw hanging in the chapel, is now modernized with a telephone at the top of the steps. In the big reception hall, hung with family paintings of hundreds of years, we see a phonograph.

But what an immense dwelling for three persons—our host, his wife, and daughter, besides three or four servants. No wonder they do not stay here in the winter. Altho this is certainly a pleasant summer home, it would be a chilly



Chateau (or Castle) De Blonay.

place in winter. The young lady tells my daughter that it is just a hundred steps from her bedroom to the kitchen.

We were welcomed with the usual hospitality. We visited the apiary, some 15 hives with movable frames, on one of the numerous terraces, the vegetable garden, the flower garden; and on every terrace we saw the walls covered with trellist trees, especially pear trees laden with fruit. Mr. De Blonay is also a lover of exotic trees and shrubs, and I saw an American black walnut side by side with a fig-tree, and tasted American blackberries as large as my thumb, and as sweet as those they raise in the United States, which put to shame the little dwarf, sour, worthless European blackberry.

After the meal we had the treat of a small martial display. A squad of Swiss soldiers was passing on the public road below the castle on their way to an annual parade at Bern, and as they stopt for their meal, our host had a big flag brought down from the attic, and unfurled at the window. This called for cheers and a salute, and it lookt for all the world as if we might yet be in the middle ages, but the steel armors, instead of being on the breasts of those men, were asleep and rusting in the little chapel, where we had the pleasure of seeing them a little later, together with ancient arms and a big closet full of parchments in drawers carefully labeled, and dating back 800 years. And yet this gentleman takes no false pride in his ancestry, but modestly signs his name "H. de Blonay, Engineer." Why can't our American heiresses look at those empty titles of nobility in the same democratic style?

How about the "oubliettes?" Of course, we must see the oubliettes. A big key was produced, a torch procured besides a lantern, and we started down thru the basements and the cellars.

> "And deeper still the deep down oubliette,
> Down thirty feet below the smiling day"—(Tennyson.)

was revealed to us by the removal of a few bunches of fagots. Then I understood the need of the torch, which I could not perceive since we had a lantern. The torch was lighted and thrown down the hole, so we could see the inside of the oubliette, which is made just like a cistern, the only opening being at the top. To think that, perhaps, people had been buried in that place alive! What a story those old castles could tell, if stones could speak!

It was with a sigh of relief that we came up to the light again, and past thru the laundry, where they do the washing once every six months. Yes, once in six months! What a pile of linen those Europeans must have! For it was not only here, but nearly everywhere, the same way. And they have a way of ironing by passing the linen thru what they call a "calender," consisting of two big rollers some four or five feet long, similar to an enormous clothes wringer. It seems quite practical.

After sitting down to tea with our kind hosts we took our leave, and walkt back to Vevey by short paths, following the little stream of water which tumbles down the hill a short distance from the castle. In another hour the train landed us again at Nyon.

The Premiums offered this week are well worth working for. Look at them.

Light Honey Crop—Basswood Failure, Etc.

BY C. DAVENPORT.

ANOTHER honey season is a matter of history. The crop in this State was, on the whole, a light one. It was, however, very irregular. In some localities a fair crop was secured, in other places but a few miles distant it was nearly a failure. We had a great drouth during the summer, and locality formed an important part, with what little rain there was, for when we needed rain the most good showers would fall in some places, and in others but a few miles away it would not rain for weeks.

In my own locality white and alsike clover yielded well while they lasted, but it was so dry they did not remain in bloom long. Basswood was a total failure; there were no blossoms, and it would be of great interest to me to know why. There were no frosts late enough in the spring to have injured the buds if they had started, and the dry weather had nothing to do with it, for there was plenty of moisture in the ground early in the season, at the time the buds should have formed. There were no insects that workt on the foliage, as has been the case some seasons before. The yield from basswood here seems to be coming more and more uncertain of late—a matter to be regretted, for while the honey from this source is not equal in quality to that from clovers, there is nothing here in the North, at least, that bees can in the same length of time secure the quantity from that they can from basswood when it yields well.

GATHERING HONEY AND POLLEN AT THE SAME TIME.

I noticed a statement in one of our journals some time ago—I forget now which one, and also who made it, but it was a Prof. Somebody—which was to the effect that bees do not carry or gather honey and pollen at the same time. I expected that many would refute this statement, but I believe no one has done so. I wonder if locality can play any part in this; it would seem so, for here bees often gather both pollen and honey at the same time, not merely a few, but a large part of the field-force does when working upon certain flowers.

I have caught in the fields, and at the entrances of the hives, hundreds of bees that were loaded with both pollen and honey. As a rule, they will not when carrying both have nearly as large a load of pollen as when gathering pollen alone, but will apparently have a full load of nectar; that is, they will eject, when prest, a large drop that looks to be as much as can be obtained from one loaded with nectar alone. But sometimes the conditions will be reverst, and those carrying both will have a good load of pollen and but a small one of nectar.

Here there are different sources from which bees gather both pollen and nectar on the same trip, but it is most noticeable from clover, especially alsike, and during the forenoon, tho I have noticed them carrying both as late as 4 o'clock in the afternoon on cloudy days.

GETTING EXTRACTING-SUPERS CLEANED UP.

The past season I run 40 colonies for extracted honey. Two full-depth upper stories were used. This gave 80 extracting-bodies, and after the last extracting this fall, instead of putting them back on the hives in order to get the combs cleaned up, I piled up the hives containing the combs crosswise of each other in the extracting-house, opened the windows, and the bees did the rest. The house sets right in the yard, and there were 156 colonies, many of which had become pretty well stirred up over the removal of the upper stories. Not a drop of honey was to be obtained in the fields, and the way they piled into the house and those hives was a sight and sound worth going many miles to see. It was the greatest uproar among bees that I have ever seen, and I was afraid that the extracting-combs would be badly torn, but they were not injured. and this is the method I shall practice in the future in order to get the combs, as well as the house itself, cleaned up after the last extracting.

The air in and around the yard was black with flying bees for two or three days, and two queenless colonies were cleaned out. I presume every colony in the yard was attackt by robbers, but all except the two queenless ones were amply able to protect themselves. I expected that I would have to contract the entrance to some of the hives, for a few were 1½ inches deep, and the full width of the hive, but it was not necessary in a single instance.

Aside from the two mentioned, which I did not try to save, the rest were all strong colonies. Of course there were thousands of bees killed in the rush and general uproar, but I believe this to be a good thing, for the most, if not all of them, were bees of such an age that they would have died this fall or the forepart of the winter, any way.

FEEDING LIGHT COLONIES FOR WINTER.

Of late I have practiced a different method of feeding colonies light in stores for winter, which may be of interest to some who neglect or overlook some light colonies until it is too late to feed syrup. The last few years, since honey has dropt so low in price, I have not fed a pound of sugar either in the spring or fall. As I produce comb honey principally, I always have, each fall, more or less unfinisht sections. While many of these contain enough honey to be salable at a reduced price, a great many contain but a small amount, and these are what I principally use for fall feeding.

When carrying a colony into the cellar, if it is light enough to cause a suspicion that it may run short of stores before spring, the cover is removed and a super containing as many of these unfinisht sections as seems necessary is set on. A super fitted with T tins is best, as it gives easier access to the sections; but I have often used those containing section-holders, and the bees never failed to go up and remove the honey if they ran short below. This, perhaps it is needless for me to say, is in a cellar kept at the proper temperature. Of 17 colonies thus fed last fall, one died, and this one had been given sections of honey with some pollen in them, which had previously, on account of moth-worms, been subjected to the fumes of bisulphide of carbon. Whether trace enough of these deadly fumes remained in the honey to affect the bees, I am not able to say.

Southern Minnesota.

Do Bees Select Their Future Home Before Swarming?

BY "RIP VAN WINKLE."

HAVING read the article by Prof. Cook, on page 529, on the "Swarming of bees," I desire to say a word on the subject, not to criticise, particularly, as most apiarists will agree that Prof. Cook is an able and scientific entomologist, and what he says in beedom "goes." But we haven't yet learned all about either end of the bee, and on the point of whether bees in swarming have or have not selected their future home before clustering, I think that while in many cases the evidence tends to show that they have exercised sufficient forethought and "rented" their domicile beforehand, and the case mentioned by Prof. Cook indicates it, or tends to do so, still even that case is not strictly conclusive, as a smart lawyer in the "cross-examination would ask, "Have you any evidence to show that the colony that came next day and took possession of the cornice, as mentioned, was not already hanging on a tree when the scouts were seen examining the locality the day before?"

Prof. Cook is too able a scientist not to know that a long series of undoubted facts alone can determine any positive law in natural history. He says on page 530: "I have little doubt but that this is always true, and that the bees simply cluster to rest the queen." Bees certainly seem to act sometimes with an intelligence approaching reason, but at many other times act, as my grandmother used to characterize it, with "hen-wit," as her broody hens would as soon sit on a white door-knob as on an egg.

And now for one or two facts tending to show the other side of the question, that is, that they do not always select their future home before clustering: Some years ago a swarm came out from one of my hives about half-past eight in the morning, after I had gone to the city (I lived in a South Side suburb, and kept a few colonies for fun). They clustered on a tree (not very leafy), and remained there all day with a hot June sun (the latter part of June) pouring down on them, and they obligingly remained until my return home at about 7 p.m., when I hived them. If they had already selected a home, why did they remain all day in the hot sun?

Again, Aug. 16th, last, on Thursday, a big swarm came out from one of my hives and clustered on an oak tree about 30 feet from the ground, and it was impracticable for me to get them, and I was schooling myself to say a fond farewell, glancing at them occasionally while at work among the rest, expecting to see them "git." But no; there they provokingly hung, and they were still there when I went home. Friday morning they were still there. Then Jupiter Pluvius "got in his work." Clouds came up, rain came down —no "mist that resembles the rain," as Longfellow says, but "cats and dogs," and "pitchforks," with blustering wind-gusts. I lookt to see them dissolve, but no! there they stuck. The afternoon was pleasant and clear; Saturday the same, and, to make a long story short, they remained until Sunday afternoon, when they finally took their leave.

Now, Professor, that swarm had not, in my humble opinion, selected its future home at the time of swarming, or that queen must have been very tired. And she was a young queen, too—I have strong reason to suppose a virgin about seven days old. An old queen might get "tired" in flying the distance of say 50 feet—the tree was scarcely 50 feet from the hive; but I can't think a young one would.

I do not give bees credit for a possibility of knowing that their queen is tired. I see little evidence of their remarkable intelligence. Their instincts *are* remarkable; their comb-building has been the wonder and admiration of man from Virgil down; but as to that intelligence some folks wonders at, I do not think it can compare with that of certain species of the ant; and I think there is as much architectural skill shown by the paper nest of the wasp.

"There is a great deal of human nature in a man," and when the bee tickles his palate with its honey, and lights his altars with its wax, he, the said man, is apt to become fulsome in his flattery.

Cook Co., Ill.

A Small California Apiary.

BY HARRY L. HEWITT.

I SEND herewith a picture of our apiary. We have all seen thru the American Bee Journal pictures of Eastern apiaries, and read how they get along from day to day and year to year. Now, I am going to tell how we get along from day to day here in California, the land of sunshine and flowers.

There is hardly a day but what our bees get some chance to fly. They winter on the summer stands, and all we need to see to is that when it rains the shade-boards are on, as is seen in the colony away back in the corner. These boards are made so that the rain drops off in front of the alighting-board to the ground, and keeps the entrance dry. It extends back about six inches from the hive, and is not closed at that end. We also use these boards in spring to keep the hives shaded during swarming-time.

On the left is my brother, who is in partnership with me. I am at the right in the picture. In the corner on the fence are my other two brothers, who help about swarming-time, hunting for swarms, etc.

We do not keep bees for profit, but for the pleasure, and also what honey they bring. We sell some, but don't make a business of it. We keep them near the stable, where it is warm, which, with the fence, acts as a wind-break.

Our bees are all in Langstroth movable 8-frame hives, and are painted white. The hives were weighed and lookt over last week for winter.

Along the fence are some empty combs that I exchanged

The Little Apiary of the Hewitt Brothers.

from other hives for full frames of honey, so that now the hives average about 25 pounds of honey each, enough to carry them over into June.

The two hives at the right are full of honey, and I will take the supers off in a day or two.

This year our honey is scarce, on account of the alfalfa bloom producing no honey at all this year, and many an old bee-man has lost half his colonies. This is the first time in years that such a thing has happened. Next year we look for something choice.

I hope to see more views of California apiaries in the American Bee Journal in the future.

San Joaquin Co., Calif., Oct. 25.

✻ The Afterthought. ✻

The "Old Reliable" seen thru New and Unreliable Glasses.

By E. E. HASTY, Richards, Ohio.

BEES AS A WEAPON IN WARFARE.

In ancient warfare a colony of bees was a most excellent weapon against enemies undermining your wall. The situation was a very common one, and roofing the assailants in, so well that stones and hot water from above were no good, was the usual recourse—and the wall itself would protect them against these after a big hole was once made. The modern counter-move would of course be explosive. The ancients, not having explosives, could find a tolerable substitute by throwing down hives of bees. In fact, infuriated bees have a hold-the-fort quality which powder notably lacks. Modern war works at such long range that bees have little opportunity. Still, I think an opportunity *might* occur. A retreating army might desire to keep the enemy from occupying with artillery a certain hilltop about to be abandoned; and a few dozen hives of bees wisely placed and dissected would establish an unwholesome climate there decidedly warmer than Gedrosia. Page 676.

CURING SWEET CLOVER HAY.

Perhaps most farmers know in a general way how to cure sweet clover hay; but just how to manage all the details is no doubt a fine art. Mr. Abbott is "shouting" when he says for us not to get the leaves killed early in the process, but to utilize them as pumps to draw the water from the thick, succulent stems. Avoid blazing hot days. If you can't do that, cut in the afternoon. Know just when to make the windrows—and see to it that they are windrows in reality. Also know just when to cock it up (slender and high), and when, and how many times, to spread it out again. These fine points pay well with ordinary grass, but with some out-of-ordinary hay-plants they are quite indispensable. Page 678.

MAKING HONEY-VINEGAR.

So it saves a year of time in making honey-vinegar to have the wood of the barrel thoroly vinegar-soakt? Quite an item. And many of us wouldn't know that vinegar mother will decay and break up in time, spoiling the looks of the vinegar, and damaging its quality. Looks reasonable, when the mind is turned to it once, and "better we looks a little out." But what shall we say of that endless drawing out and pouring in—robbing Peter and paying Paul? Well, if a *lady* finds it a moderate task to shift several pails of fluid all down the line, one step at a time, thru a row of twelve barrels ('twas a lady that watered Abraham's camels, wasn't it?) well, then, an epizoot on the lout of a man who thinks it too much work and fuss! Do we produce good queens (or good honey, either, for that matter) without fuss? Interesting to find customers preferring honey-vinegar to cider-vinegar. But it was *store* cider-vinegar. Possibly some store vinegar, like some store honey, is "all right, of course"—and the rest of the words unspoken. Page 681.

THE FOLKS THAT WAR AGAINST SWEET CLOVER.

J. A. Green struck a bright idea when he suggested that the folks that war against sweet clover be let alone. Likely to help the honey harvest about as much as they damage it, until they know a heap more than they know now. The plant is apparently with us to stay. As another reason for letting alone, I would suggest the reading of Luke 14:31. Page 693.

RUBBING IN AN IMPORTANT QUEEN-MATTER.

J. L. Gandy, on page 695, is rubbing in once more an important matter which may probably be regarded as about settled. Young queens just beginning to lay, suffering much less from a journey thru the mails than those which have come to the full of their powers. A wise previous treatment to check laying can do something toward putting a valuable old queen in traveling condition; and we might politely hear more on that point.

THE "WHY" OF BIG VS. LITTLE HIVE A "PERSONAL EQUATION."

So long as we can not tell *why* a given locality requires big hives, or little ones, there is room to supect that the why is what the astronomers would call the "personal equation" of some man—and said man having a lot of implicit followers. Page 696.

INTRODUCING QUEENS WITH TOBACCO-SMOKE.

Henry Alley's introducing with tobacco-smoke 50 virgin queens in half an hour is a high grade of work, surely; but still we must not forget that it is introducing to *nuclei*, not to old, strong colonies of hybrid bees in big hives. How shall we get the latter ilk of bees *all* tobacco-civilized without pretty nearly killing half of them? And how keep their new saintliness from backsliding a few hours later? That both the smoking and chewing "fine-cuts" of the shops are too strong for bee-smoking, is a point not kept before us heretofore, I think. Smoke of knock-'em-down strength would be much more difficult to manage just right, I judge. Page 697.

EACH TO PAY FOR HIS OWN SOAKT HEAD.

And so our editor thinks that if a man *will* soak his (barrel) head he should pay for the soakage. Unanswerable proposition. Page 707.

WINTERING BEES IN CELLARS.

Between the intense anxiety to have his bees in the best of ventilated quarters, shown by Daniel Whitmer, page 711, and the indifference to the whole matter, or the counter desire to have no ventilation at all, shown by other bee-men of good standing, there is quite a gulf. The situation must be very puzzling to an active-minded beginner. We old chaps long ago had to get accustomed to just such point-blank disagreements. And I can't do the whole of the big job of cleaning the discrepancy up for the benefit of said beginner. But for one thing, in winter, nature *will* ventilate most quarters (even many cellars) in spite of us. For another thing, 247 colonies would try the oxygen of the unventilated cellar more than it usually gets tried—quite a different thing from taking thru a quarter hundred or half hundred of colonies. For another thing, any number of colonies roaring and excited require immensely more oxygen than if quiet—no quiet lot of bees being likely to suffer in that regard. And for another thing, the quality of the food bees have to winter on is so much more important than everything else put together, that one can indulge mistaken notions and never find it out, if only the food is good. As a compromise, I would suggest this: Have the cellar so you *can* ventilate—but don't do anything of the kind till the need of it appears—until the bees begin to get unquiet, or at least until the air inside impresses you as bad when you breathe it.

IF IT WERE "FOWL-BROOD" ONLY.

Yes, it does sound a bit as if the bees that hatch chickens must be "fowl-brooders." If that were the only kind of foul-brood abroad we should be happy. Page 714.

THE BEE-MAN AND THE BALLED QUEEN.

Interesting to see that so able a bee-man as Dr. Miller thinks it best to let entirely alone, and "make yourself scarce," whenever bees are found to be balling their own queen. It requires some nerve to keep this precept, but may be it is for the best. Page 714.

WOODEN QUEEN-CELLS—NEXT!

Wooden queen-cells—nicely veneered with wax, I presume—but Connecticut wooden-ware all the same! If they are not enough to make testy advocates of nature undefiled retire to their graves, or turn over in the same if they have already retired, what would suffice, pray tell? Page 715.

Langstroth on... The Honey-Bee

Revised by Dadant—1899 Edition.

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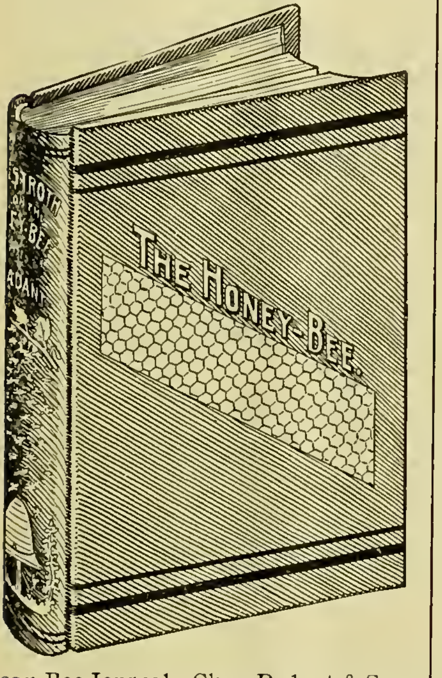

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BEEDOM BOILED DOWN

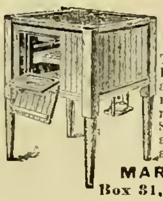
Unsuccessful Wintering on Honeydew

In August, 1884, the leaves on the basswoods, elms and hickories in my locality were covered with honey-dew, and the bees filled the brood-chambers just as full as they possibly could of the off-colored stuff. I did not like to risk the wintering of all my bees on honey-dew, when I had plenty of sealed clover honey in the top stories, which I had saved to winter them on, but I thought I could safely do some experimenting along this line and go thru the winter without any loss. I had 85 colonies, and in the fall I took all the combs out of 65 brood-chambers, and placed from 5 to 6 combs of sealed clover honey in each hive, and put a division-board on each side of these combs. I then packt the colonies with forest leaves. I then fitted up 10 colonies with 5 combs of sealed honey-dew each, (which I had taken from other colonies), and after placing division-boards on each side of the combs I packt these colonies with leaves also. I then fixt up the other 10 colonies with 3 sealed combs of clover in the center and a comb of honey-dew at each side and the division-boards, packing these colonies in leaves the same as I did the others.

The 65 that were given the sealed combs of clover honey wintered fine, and were very strong with bees in the spring, and gave a large yield of honey in 1885. The 10 that had mixt stores dwindled down very much in spring, and gave me but very little honey that season. The 10 colonies that I tried to winter on nothing but honey-dew soiled their hives very badly, the most of them died before spring, and the balance "petered out" and were gone before the middle of April.

When the clover season is nearing the end I leave 5 sealed combs in each top story for winter stores, and extract from the other super-combs until the

Sharples Cream Separators: Profitable Dairying



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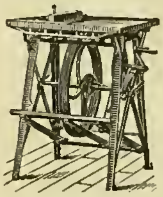
BARNES' FOOT POWER MACHINERY



Read what J. I. PARENT, of Charlton, N. Y., says: "We cut with one of your Combined Machines, last winter, 50 chaff hives with 7-in. cap, 100 honey racks, 500 brood-frames, 2,000 honey boxes, and a great deal of other work. This winter we have double the amount of bee-hives, etc., to make, and we expect to do it with this Saw. It will do all you say it will." Catalog and price-list free.

Address, W. F. & JOHN BARNES,
5Ctf 995 Ruby St., Rockford, Ill.
Please mention Bee Journal when writing.

THE MODERN FARMER & BUSY BEE.

EMERSON TAYLOR ABBOTT, Editor.

A live, up-to-date Farm Journal with a General Farm Department, Dairy, Horticulture, Livestock, Poultry, Bees, Veterinary, Home and General News. Edited by one who has had practical experience in every department of farm work. To introduce the paper to new readers, it will be sent for a short time to New Subscribers, one year for 25 cents. Sample copies free. Best Advertising Medium in the Central West. Address,

MODERN FARMER,
9Ctf ST. JOSEPH, MO.
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The Rural Californian

Tells all about Bees in California. The yields and Price of Honey; the Pasturage and Nectar-Producing Plants; the Bee-Ranches and how they are conducted. In fact the entire field is fully covered by an expert bee-man. Besides this the paper also tells you all about California Agriculture and Horticulture. $1.00 per year; 6 months, 50 cents. Sample copies, 10 cents.

THE RURAL CALIFORNIAN,
218 North Main Street, - LOS ANGELES, CAL.
Please mention Bee Journal when writing.

STUDENTS RETURNING HOME

For holiday vacations can, upon presentation of proper credentials, obtain tickets via Nickel Plate Road, to all points in Central Passenger Association territory, at a fare and a third for the round trip. Tickets will be sold on day of closing school and on day immediately preceding closing date; good returning until date school reconvenes, but not later than January 8, 1901.

For information as to train service to Ft. Wayne, Cleveland, Fostoria, Erie and other points, call on or address John Y. Calahan, General Agent, 111 Adams St. Chicago Passenger Station, Van Buren St. and Pacific Ave., on the Elevated Loop. (43)

SPECIAL NOTICE!

Last winter's cut of basswood is the whitest it has been for many seasons. We are now making sections out of this new stock and therefore are in a position to furnish you with the very finest quality in the market.

LEWIS WHITE-POLISHT SECTIONS

Are perfect in workmanship and color.

Orders shipt immediately upon receipt. A complete line of everything needed in the apiary. Five different styles of Bee-Hives.

Lewis Foundation Fastener simplest and best machine for the purpose. Price, ONE DOLLAR, without Lamp.

G. B. LEWIS CO., Watertown, Wis., U. S. A.

BRANCHES:
G. B. LEWIS Co, 19 So. Alabama St., Indianapolis, Ind.
G. B. LEWIS Co., 515 First Ave., N. E., Minneapolis, Minn

AGENCIES:
L. C. WOODMAN..........Grand Rapids, Mich.
FRED FOULGER & SONS..........Ogden, Utah.
E. T. ABBOTT, St. Joseph, Missouri, Special Southwestern Agent.

SEND FOR CATALOG.

Please mention Bee Journal when writing.

26 cents Cash paid for Beeswax.

This is a good time to send in your Beeswax. We are paying 26 cents a pound—CASH—for best yellow, upon its receipt, or 28 cents in trade. Impure wax not taken at any price.

Address as follows, very plainly,

GEORGE W. YORK & CO., 118 Michigan St., CHICAGO.

California! If you care to know of its Fruits, Flowers, Climate or Resources, send for a sample copy of California's Favorite Paper—

The Pacific Rural Press,

The leading Horticultural and Agricultural paper of the Pacific Coast. Publisht weekly, handsomely illustrated, $2.00 per annum. Sample copy free.

PACIFIC RURAL PRESS,
330 Market Street, - SAN FRANCISCO, CAL.

200-Egg Incubator for $12.00

Perfect in construction and action. Hatches every fertile egg. Write for catalogue to-day.

GEO. H. STAHL, Quincy, Ill.

46A25t Please mention the Bee Journal.

Bee-Hives and Honey-Boxes

in car lots, wholesale or retail. Now is the time to get prices. We are the people who manufacture strictly first-class goods and sell them at prices that defy competition. Write us to-day.

Inter-State Box and Manufacturing Company,
47Atf HUDSON, WIS.

Have You Either an Orchard or Garden?

Have you anything to do with either Fruits or Vegetables? Then keep in touch with your work by subscribing for the

American Fruit and Vegetable Journal

Publish at
713 Masonic Temple....
CHICAGO, ILL.

Sample copy free. Mention this paper.

I have before me a copy of the American Fruit and Vegetable Journa , which I like pretty well. It fills the bill better than any paper I have seen lately. IRA C. TRACY, Foreman in the Home Nurseries.

I was much pleased to receive your publication. It is a very neatly printed and well edited journal, and merits success. D. W. BARKLEY, Editor of the "Rocky Ford Enterprise."

All departments of the Fruit and Vegetable business discust by practical and experienced persons.

FREE! We will send the above Journal absolutely FREE for one year as a premium to all old subscribers sending us $1.00 to pay their subscription one year STRICTLY IN ADVANCE. Both papers for the price of one. Send your renewal subscription to this office while this offer is open. Both papers, $1.00.

AMERICAN BEE JOURNAL, 118 Mich. St., Chicago, Ill.

Please mention the Bee Journal when writing Advertisers.

season ends, and when the time comes to prepare my bees for winter, I have 5 combs of choice stores to put into each brood-chamber for the bees to winter on. If I had left all the colonies to winter on honey-dew in 1884, when the brood-chambers were filled up full with it, I would have lost nearly all of my bees. It doesn't pay to try to winter bees on poor stores.—WM. MCEVOY, in Canadian Bee Journal.

Churning Slumgum Under Boiling Water.

The following is from W. L. Porter, in the Progressive Bee-Keeper:

"For rendering old combs I use a tank 15 inches deep and 19 inches square on top. I have it these dimensions so it is suitable for holding four square 5-gallon cans of honey for liquefying. This I place on a brick furnace with pipe sufficient to give a good draft, and fill ⅔ full of water. When boiling I put in old comb until the tank is full. I then have a screen made out of ½-inch lumber, 5 inches wide, and the size just to fit the inside of the can; the lumber is put together in the form of a box. On this I fasten firmly screen wire (window-screen) with a brace thru the middle. When the wax is boiling vigorously I place in this frame, with the screen up. The 5-inch frame prevents the slumgum from coming up, and the wax will come thru the screen.

"When the frame is prest down I dip off this, and by agitating the frame it churns the refuse, the wax is liberated and comes on top. I then take out the frame and screen and stir vigorously, then put in the screen and repeat the dipping off. I then weigh down the screen with heavy weights, and leave over night. The heat of the brick and the coals under the furnace will keep the tank at the boiling-point for a good many hours, and in the morning wax can be taken off in a cake. This leaves the slumgum quite free of wax."

Sweet Clover—Its Fertilizer Value.

Right adjoining our premises is a bank of earth thrown out of a railroad cut. This soil came out of the cut from a depth of 10 or 12 feet. Some years

IT COST US $4,000 Costs You 15c

SELF SUPPLIED MOISTURE. SELF-REGULATING. SELF-VENTILATING.

We have spent $4,000 on our new book, "How to Make Money with Poultry and Incubators." It tells it all. Leading poultry men have written special articles for it. 192 pages, 8x11 in. Illustrated. It's as good as

Cyphers Incubator

—and it's the best. Out hatch any other machine. 16 page circular free. send 15 cts. in stamps for $4,000 book No. 50

Address nearest office. CYPHERS INCUBATOR CO.
Chicago, Ill. Wayland, N. Y. Boston, Mass.

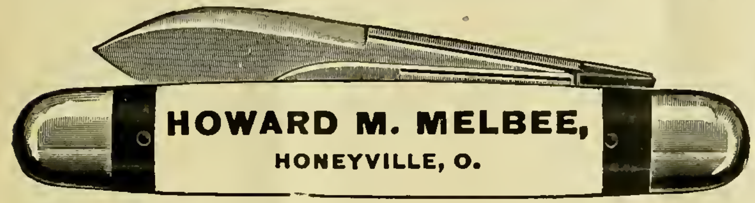
Please mention Bee Journal when writing

REDUCED RATES FOR CHRISTMAS AND NEW YEAR HOLIDAYS.

The Nickel Plate Road will sell tickets Dec. 22 to 25, inclusive, Dec. 31, 1900, and Jan. 1, 1901, at rate of a fare and a third for the round trip, to any point located in Central Passenger Association territory, good returning to and including Jan. 2, 1901. Vestibuled sleeping-cars. Individual club meals, ranging in price from 35 cents to $1.00, served in dining-cars. Address, John Y. Calahan, General Agent, 111 Adams St., Chicago, for particulars. Depot, Van Buren St. and Pacific Ave., on the Elevated Loop. (42)

The Novelty Pocket-Knife.

Your Name and Address on one side—Three Bees on the other side.



[THIS CUT IS THE FULL SIZE OF THE KNIFE.]

Your Name on the Knife.—When ordering, be sure to say just what name and address you wish put on the Knife.

The Novelty Knife is indeed a novelty The novelty lies in the handle. It is made beautifully of indestructible celluloid, which is as transparent as glass. Underneath the celluloid, on one side of the handle is placed the name and residence of the subscriber, and on the other side pictures of a Queen, Drone, and Worker, as shown here.

The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and in case of death, your relatives will at once be notified of the accident.

How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

The accompanying cut gives a faint idea, but cannot fully convey an exact representation of this beautiful knife, as the "Novelty" must be seen to be appreciated.

How to Get this Valuable Knife.—We send it postpaid for $1.25, or give it as a Premium to the one sending us THREE NEW SUBSCRIBERS to the Bee Journal (with $3.00.) We will club the Novelty Knife and the Bee Journal for one year, both for $1.90.

GEORGE W. YORK & CO., 118 Mich. St., Chicago, Ill.

☞Please allow about two weeks for your knife order to be filled.

FREE FOR A MONTH....

If you are interested in Sheep in any way you cannot afford to be without the best Sheep Paper publisht in the United States.

Wool Markets and Sheep

has a hobby which is the sheep-breeder and his industry, first, foremost and all the time. Are you interested? Write to-day.

WOOL MARKETS AND SHEEP, CHICAGO, ILL.

FOR SALE!

Best Extracted Alfalfa Honey

Guaranteed absolutely Pure Bees' Honey. Packt in 5-gallon tin cans, of about 60 pounds each, two cans to the case, 7½ cents per pound, cash with order. Buy direct from the home of Alfalfa. We can please you. Headquarters for ALFALFA and SWEET CLOVER SEED. Write for prices. **Vogeler-Wiedemann Co.,** 60-62 W. First So. St., SALT LAKE CITY, UTAH.

43Atf Please mention the Bee Journal.

ago I got permission of the railway company to use it by way of experiment. Of course, nothing would grow on it—that is, nothing but sweet clover—which is already along the railroad. We let it grow up and scatter seed until last spring, when I saw there was a dense growth of thick succulent stalks about two feet high. When we were plowing under the clover in the field adjoining, I directed our folks to turn under the sweet clover, and said we would try it with Carman potatoes. The potatoes came up rank and strong to my great surprise, and we have just been digging them, and I was surprised again to find some of the handsomest, cleanest potatoes on that hard, unproductive clay bank that I ever raised anywhere. There was not a particle of scab, no work of wire worms or grubs; and the crop that we got was at the rate of at least 100 bushels per acre. From this experiment I infer that sweet clover is not only worth as much to turn under as any of the common clovers, but I should say even more.—A. I. ROOT, in Gleanings in Bee-Culture.

GENERAL ITEMS

Report for the Season of 1900.

My bees are on the summer stands with the supers full of dry leaves, and from 4 to 6 inches of dry leaves around the hives, with tar-paper outside of all, and I believe they are in good shape to stand any kind of a winter we may have.

When I came to Iowa, two years ago, I sold all my bees, and as they were scarce and high, I did not buy any till last spring, when I got two colonies in box-hives. They gave me two new

We Can't Give Away Anything

You pay for what you get in this world. You understand that. But as a business proposition we want you to try our great medicine for Indigestion, Constipation, Biliousness, Sick Headache, Insomnia, "the Blues," and like complaints—

Laxative **NERVO-VITAL** Tablets

We know you won't buy it, until you know something about it. The best way to get you to know how good it is, is to let you try it. That's what we do. Send Stamp for "Health" booklet, and we will send you a free sample package, that you may try it yourself. We know you will always keep it in the house, if you once try it. What fairer offer could we make? At all Druggists—10 and 25 cents.

Handsome Stick Pin FREE!

If, instead of sending for a sample, you send us 25c we will send you "Health" booklet, a 25c box and a handsome gold stick-pin, set with emerald, ruby or pearl, warranted to be worth double the money. Order by number. This is an extra introductory offer. Only one pin to one person. If unsatisfactory, money returned. Send now while the offer is good.

MODERN REMEDY COMPANY, KEWANEE, ILLINOIS.

[*This company will do exactly as it promises.—Editors.*]

swarms, June 6 and 16, and 21 days after I drove them out into new hives; and I took off 125 nicely filled sections of honey from the two new colonies; I got none from the old. They are all four good, strong 10-frame colonies.

I received my "premium queen" Aug. 29th, and removed the old queen (put her in an old hive with a few bees). Aug. 31st I placed the cage with the queen between the combs after cutting out all queen-cells, and on Sept. 2nd, at noon, they had her releast. I did not even remove the pasteboard, that some have seemed to have had trouble with. Sept. 5th I found her balled, and about 25 more queen-cells started, and some of them capt. I caged her, cut out all queen-cells again, and placed her on a frame of honey, eggs, larvæ, and hatching brood, covered with wire cloth, and the next day at noon found they had gnawed under the wire and let her out. I found her running around on the bottom of the hive, with a string of bees chasing her, but they did not ball her again, and two days later she was laying and now has a strong colony of her own bees, and I look for good results from her another year. I bought 6 colonies this fall, so I have 10 now.

We have had a very warm, open fall here. Nov. 4th my bees were bringing in pollen, and, I believe, some honey. We had our first freeze after that. What will be the result of bees gathering pollen so late?

I hated to kill my queen in the old hive, as she was a good, this year's queen, so I made an observatory hive with glass sides, and put her with one frame of bees in it, and have them in my office with an outside entrance, and they are breeding right along, and are watcht with interest by a great many grown people and children who would not dare go near a bee-hive.

YELLOW OR WHITE

Sweet Clover Seed

Free as a Premium

For Sending us One New Subscriber for a Year.

There has been so much written about both the white and the yellow variety of sweet clover, that we will simply say here that if one of our present regular subscribers will send us $1 with a new name for next year (1901), we will send the new subscriber the balance of this year's (1900) numbers free, and mail, postpaid, to the one sending the new name and the dollar, either **one pound** of yellow sweet clover seed, or **two** pounds of the white sweet clover. This is a good chance to get a start of both kinds of these honey clovers. Better send two new subscribers (with $2.00) and get the three pounds of seed. Address,

GEORGE W. YORK & CO.
118 Michigan Street, CHICAGO, ILL.

WHY NOT BE SURE ABOUT IT?—Sure that an incubator will hatch before you pay for it. We will send you our **New Premier Incubator** **On Trial**, you pay for it after thoroughly testing it. Put eggs in it, make a hatch, then you'll know if you want it. First prize at World's Fair. Medals at Nashville, Omaha & Nat. Export Expo. Sole makers of Simplicity Incubators. Catalogue and "Poultry Helps" for 5c stamps. **COLUMBIA INCUBATOR CO., 5 Water St., Delaware City, Del.**

Please mention Bee Journal when writing

MERIT ALWAYS WINS.

The hard times of the past three or four years have been very destructive to all industrial affairs, and the railroads have had unusual amount of difficulty in making both ends meet. Roads that have, during this trying period, earned dividends while at the same time affording high-class transportation facilities to their patrons, have, indeed, been fortunate. And such an event speaks well for the management of the roads.

The record of the Nickel Plate Road during the recent period of industrial depression, has indeed been remarkable, and it speaks most eloquently of he conservative judgment of the managers. For this road has made great and steady progress in the material improvement of its roadway and appliances, and in perfecting its equipment. The interests of the public have been in no wise neglected; in fact, the success of this road has inured to the benefit of the public, as much, if not more, than to the stockholders. The condition of the road to-day shows this. Great and valuable improvements of a permanent character have been made—in the shape of strengthening the roadway, bridges and other accessories, and procuring new and improved safety appliances; new coaches have been added, elegant Pullman sleeping-cars put on, new and powerful engines have been placed in service, and everything has been done to raise the standard of the road, to perfect its service, and to give it a leading place among the best roads in the country. The result has been obvious. The people have observed the progressive spirit of this road, have given it a liberal patronage, have enjoyed its excellent facilities, and that tells the whole story of a highly successful enterprise.

Among the most noteworthy improvements effected by the Nickel Plate Road is the introduction of a first-class dining-car service, which has won the approval of the best class of patrons. Then the coaches have been illuminated by the brilliant Pintsch gas, heated by steam, and placed in care of a colored porter, so the passengers have had the best that money can afford, at the lowest rates. The thru train service of the Nickel Plate, running in connection with the West Shore and Fitchburg Railroads over the great Hoosac Tunnel Route, between New York, Boston and Chicago—ranks with the best in the country, and has become deservedly popular. Elegant new coaches, and palatial Pullman buffet sleeping-cars run thru without change; the service is unexcelled, the time fast, scenery most fascinating.

Located along the south shore of Lake Erie are many substantial and attractive summer resorts that are yearly growing in popularity, and this class of travel promises a continual increasing source of revenue to the Nickel Plate Road. 48A4t

Please Mention the Bee Journal when writing Advertisers.

Extracted Honey For Sale!

Case of two cans White Alfalfa, weighing 122 pounds net, for $8.50, f o.b.

H. L. WEEMS, Lemoore, Calif.

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326 FIRST PREMIUMS SEND FOR FREE CATALOGUE.
Prairie State Incubator Co.
Homer City, Pa.

47A17t Please mention the Bee Journal.

BEE-SUPPLIES.

Muth's Square Glass Honey-Jars.
Send for Catalog.

HONEY AND BEESWAX WANTED.
C. H. W. WEBER,
42Atf 2146 Central Ave., Cincinnati, Ohio.
Please mention Bee Journal when writing.

BEE-SUPPLIES!

Root's Goods at Root's Prices

POUDER'S HONEY-JARS and everything used by bee-keepers. Prompt Service—low freight rate. Catalog free. WALTER S. POUDER,
512 Mass. Ave., INDIANAPOLIS, IND.

Belgian Hare Guide AND DIRECTORY OF BREEDERS. Price 25c
Inland Poultry Journal Co., Indianapolis, Ind.
Please mention Bee Journal when writing.

Will I be able to keep them thru the winter? or will the unnatural warmth and activity cause them to die off fast before spring?

I haven't set any of my bees on hen's eggs yet; but if this is worth a place in the Bee Journal, perhaps I will tell next time how I am planning to have my bees call me up over the 'phone when they are swarming next summer.

A. B. GINNER.

Hardin Co., Iowa, Nov. 16.

What Honey-Plants for Mississippi?

This is not a good locality for bees. Mine did not store any honey after June this year, and I fear I shall lose some of my colonies from starvation. What has become of the white clover that once grew wild and could be found along every lane and on every uncultivated spot in the country, from the time I could first remember until recently? It never occurred to me, however, till I began keeping bees the second time, two years ago.

Of course, every bee-keeper is constantly on the lookout for bee-plants. The goldenrod down here didn't bloom this year. The bloom seemed to dry up. Is this to be accounted for? Or is it natural down here to do that? I never noticed it before. In fact, I don't see what our bees live on, let alone store from, in this vicinity, after June.

I am thinking of buying some of the best honey-plants to help the bees out next year, and would like some one who knows, to tell thru the American Bee Journal what plants are best adapted to this climate and soil. I am 8 miles from the great Mississippi River. I know of some apiaries on or near the river that pay well, and have a surplus every year. Who can tell whether or not the yellow or white sweet clover, spoken of so often, would do for this locality? and when would be the time to plant them? also, would such require any special cultivation, or could such plants be sown promiscuously anywhere along the fence-rows or on uncultivated places to get it started? We know red clover as a forage plant doesn't pay down here. Lespedeza didn't seem to attract bees, either. I do not know about alfalfa. I would be obliged if some one would recommend honey-plants that I could plant in my orchard, as I haven't planted anything in it but cow-peas so far, as I have mostly young trees in it. But I have a two-acre lot fitted out with all the different kinds of fruit-trees, and I would like to grow some kind of honey-plants in there.

Unless bees can be made to do much better than mine have the past two years, they won't pay. What a ridiculous idea I see advanced by those who assert that bees puncture and damage peaches and other fruit. If they said birds were damaging to fruit, I would endorse it, but not bees.

JOHN KENNEDY.

Adams Co., Miss., Nov. 17.

CONVENTION NOTICES.

New York.—Bee-Keepers' Institutes will be held as follows: Batavia, Dec. 12th; Canandaigua, Dec. 13th and 14th; Romulus, Dec. 15th; Auburn, Dec. 17th; and Johnstown, Dec. 18th. Bee-Keepers living in the vicinity of these Institutes are urged to attend and take an active part in the proceedings.

New York.—The Ontario County Bee-Keepers' Convention will be held in Canandaigua, N.Y., Dec. 13 and 14. There will be a bee-keepers' institute in connection with the same, and Editor W. Z. Hutchinson has been engaged to attend.

Naples, N.Y. FRIEDEMANN GREINER, Sec.

A HANDY TOOL-HOLDER!

Sent by Express, for $1.50; or with the Bee Journal one year—both for $2.00.

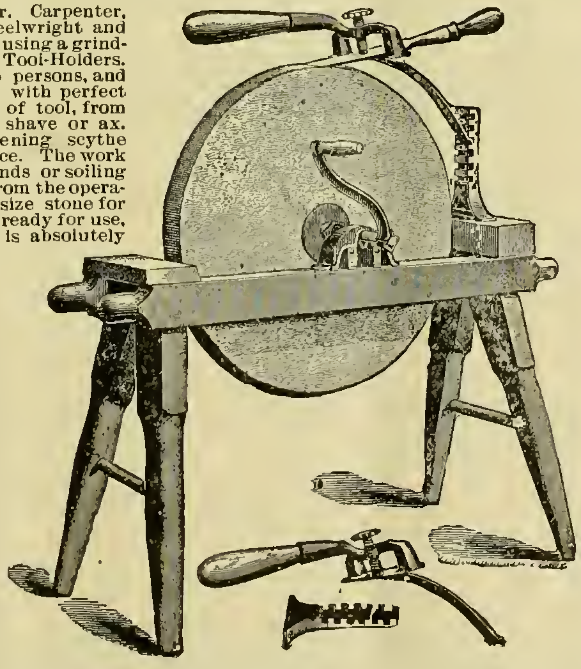
Every Manufacturer, Miller, Carpenter, Cabinet Maker, Machinist, Wheelwright and Quarryman, Farmer, or any one using a grindstone, should have one of these Tool-Holders. One boy can do the work of two persons, and grind much faster, easier and with perfect accuracy. Will hold any kind of tool, from the smallest chisel to a draw shave or ax. Extra attachment for sharpening scythe blades included in the above price. The work is done without wetting the hands or soiling the clothes, as the water flows from the operator. It can be attached to any size stone for hand or steam power, is always ready for use, nothing to get out of order, and is absolutely worth **100 times its cost.**

No farm is well-equipped unless it has a Tool-Holder. Pays for itself in a short time.

How to Use the Holder.

DIRECTIONS.—The Tool is fastened securely in the Holder by a set-screw and can be ground to any desired bevel by inserting the arm of the Holder into a higher or lower notch of the standard. While turning the crank with the right hand, the left rests on an steadies the Holder; the Tool is moved to the right or left across the stone, or examined while grinding, as readily and in the same way as if held in the hands.

For grinding **Round-Edge Tools**, the holes in the standard are used instead of the notches.



GEORGE W. YORK & CO.,
118 Michigan Street, CHICAGO, ILL.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Nov. 24.—There is a demand for fancy white comb honey at 16c that takes all of this grade upon arrival; other grades are less active, with No. 1 white at 15c; amber and travel-stained white ranges from 13@14c, with dark amber and buckwheat comb 10@12c. Extracted, white, 7½@8c; amber, 7@7½c; dark grades, including buckwheat, 6½@6¾c. Beeswax, 28c. R. A. BURNETT & Co.

KANSAS CITY, Nov. 16.—Fancy white comb, 15@16c; No. 1 white, 14@15c; amber, 12@13c; dark, 8@9c. Extracted, in 5-gallon cans, white, 7½@9c; amber, 7@8c. Receipts light.

W. R. CROMWELL PRODUCE CO.,
Successors to C. C. Clemons & Co.

BUFFALO, Nov. 16.—Fancy white comb remains at 17@18c mostly, with rather larger receipts. Common selling at 12@16c. Possibly some lots poor enough to go less. We believe the high prices will curtail consumption. Extracted never sells well in Buffalo, but a little might sell at 8@9c in fancy shape.

BATTERSON & CO.

ALBANY, N.Y., Nov. 17.—Fancy white, 17@18; No. 1, 15@16c; mixt, 13@14c; fancy buckwheat, 13@14c; No. 1, 12@13c; mixt, 12c. White extracted, 8½@9½c; mixt, 8@9c; buckwheat, 6½c.

Honey market still firm with good demand; light receipts at high prices, especially for comb honey of all grades. H. R. WRIGHT.

BOSTON, Nov. 19.—Our market on honey continues strong, with light receipts. Fancy one-pound cartons, 17c; A No. 1, 15@16c; No. 1, 15c; No. 2, 12@13c. Extracted from 7½@8½ cents, according to quality. Beeswax steady at 25@27c.

BLAKE, SCOTT & LEE.

CINCINNATI, Sept. 21.—The demand for fancy comb honey is good and finds ready sale at 16@16½c; No. 1, 15c. The demand for extracted honey at present is slow and offer same by the barrel as follows: White clover, 8½@9c; Southern, 6½@7½c; Florida, 7@8 cents, according to quality. Beeswax, 27c.

The above are MY SELLING PRICES. I do not handle any honey on commission, but pay spot cash on delivery. C. H. W. WEBER.

NEW YORK, Nov. 20.—Good demand continues for all grades of comb honey. We quote: Fancy white, 15@16c; No. 1 white, 14c; No. 2 white 12@13c; amber, 12c; buckwheat, 10@11c. Extracted in fairly good demand at 7½@8c for white, and 7c for amber; off grades and Southern in barrels at from 65@75c per gallon, according to quality. Not much demand for extracted buckwheat as yet. Some little selling at 5½@6c. Beeswax firm at 28 cents.

HILDRETH & SEGELKEN.

DETROIT, Nov. 22—Fancy white comb, 15@16c; No. 1, 13@14c; dark and amber, 10@12c. Extracted, white, 8@8½c; light amber, 7@7½c; dark, 6@6½c. Beeswax, 26@28c.

M. H. HUNT & SON.

SAN FRANCISCO, Nov. 21.—White comb, 13@14 cents; amber, 11½@12½c; dark, 8@9c. Extracted, white, 7½@8c; light amber, 6¾@7¼c; amber, 5½@6½c. Beeswax. 26@28c.

Market is seldom more lightly stockt than at present, and is firm at current rates. Offerings are principally amber grades, choice to select water white honey being a rarity at present, as it has been, in fact, most of the current season. A shipment of 90 cases of honey went forward per steamer to British Columbia.

A HONEY MARKET.—Don't think that your crop is too large or too small to interest us. We have bought and sold five carloads already this season, and want more. We pay spot cash. Address, giving quality, quantity and price,

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What have you to offer and at what price?

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High Grade of Italian Queens

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Send for descriptive price-list.

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And Several Other Clover Seeds.

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	5lb	10lb	25lb	50lb
Sweet Clover (white)	60c	$1.00	$2.25	$4.00
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Shipping-Cases, Root's No-Drip; Five-Gallon Cans for extracted honey, Danz. Cartons for comb honey. Cash or trade for beeswax. Send for catalog. M. H. HUNT & SON, Bell Branch, Mich.

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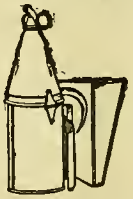

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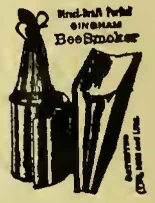

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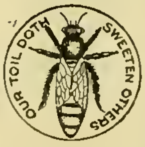
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AMERICAN BEE JOURNAL

GEORGE W. YORK,
Editor.

CHICAGO, ILL., DECEMBER 13, 1900.

FORTIETH YEAR.
No. 50.

WEEKLY

W. Z. HUTCHINSON, *of Michigan,*
Director of the National Bee-Keepers' Association.

THE AMERICAN BEE JOURNAL.

PUBLISHT WEEKLY BY
GEORGE W. YORK & Co.
118 Michigan St., Chicago, Ill.

'Entered at the Post-Office at Chicago as Second-Class Mail-Matter.

IMPORTANT NOTICES:

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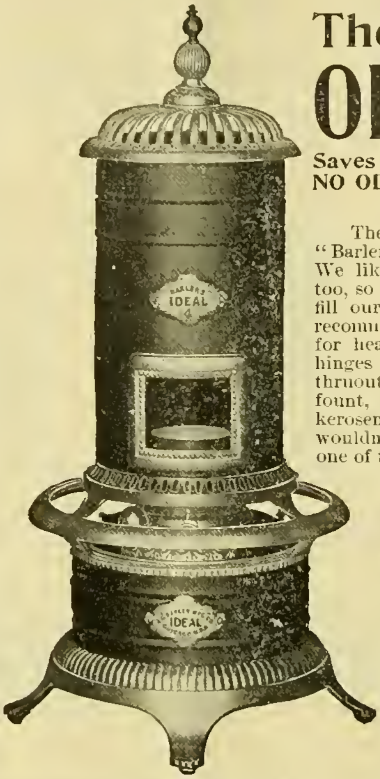

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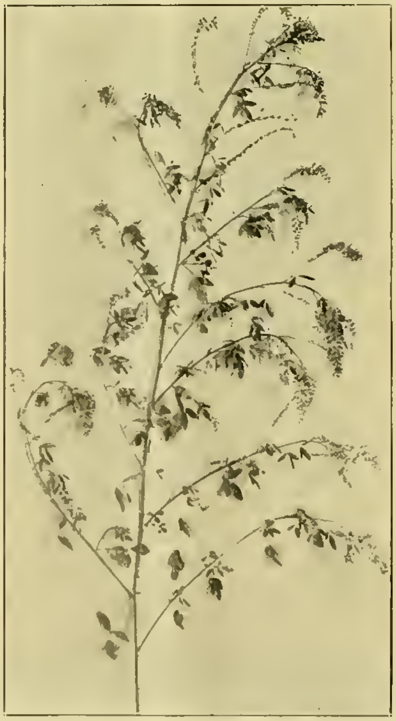

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AMERICAN
BEE JOURNAL
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40th YEAR. CHICAGO, ILL., DECEMBER 13, 1900. No. 50.

Editorial.

The Brosius Pure Food Bill is given in full in this number of the Bee Journal, as requested at the Chicago convention. Secretary Wilson, of the Department of Agriculture at Washington, in his annual report just issued, has the following strong endorsement of the Brosius bill:

> "The Division has during the year been engaged in active co-operation with other organized bodies, notably the Pure Food Congress of the United States, to promote the effort to secure State and National legislation on the subject of food adulteration. In quite a number of the States the laws which have been past have been modeled upon the Brosius Pure Food Bill, which is now pending before Congress, and which, by its passage, would secure a perfect control of interstate traffic in adulterated foods. It is only by such National legislation that the excellent work which the States are doing in controlling State legislation can be properly supplemented and made efficient. Every consideration of honesty and justice to the producer and consumer demands that Congress should take early and favorable action upon the pure-food bill which is now pending."

Every honest man will say "Amen" to Mr. Wilson's last sentence above, and earnestly hope that Congress will act thus speedily in the interest of all the people.

◆

Honey-Prices in City Markets.—G. M. Doolittle, in Gleanings in Bee-Culture, advises that the price of honey in the home market shall be fixt by adding to the city market the freight and commission. In a straw in a subsequent number, Dr. Miller approves this, but thinks the matter should be reverst when there is a shortage in the home market; for in that case the home grocer buying in the city would pay freight on his purchase.

While both may be correct, and there is probably no disagreement between them, there are some factors in the case that make it generally advisable to shade the figures just a little in favor of the home market. There is no risk of railroad breakage in the case of the home market. Some may be so experienced in the matter that this is of little account, but many a beginner has suffered considerable loss from breakage occurring either while on the cars or else in putting on or taking off the cars.

Another thing worth considering is the matter of shipping-cases. In the home market these may be used several times, thus saving most of the expense for cases, whereas, cases sent to the city market are never seen again. In the home market the grocer may want to pay in trade, and the bee-keeper may say he would rather have the money to buy where he pleases. There is no good reason why the grocer in the country should not pay cash as well as the city grocer. It is probably a fact, however, that most bee-keepers buy their groceries generally at one place, even if they do pay all cash, and if the grocer makes the same charge for the goods he sells to the bee-keeper in payment for honey as when he sells for cash—and any honest grocer ought to do that—where is the difference whether the bee-keeper gets trade or cash?

◆

Corking a Honey-Funnel.—When filling cans one sometimes uses a funnel, and the funnel must be carried from one can to another. If this is done when much honey is in the funnel there may be trouble. H. P. Miner tells in the Bee-Keepers' Review how he avoids it. Have a cork that fits the lower end of the funnel with a heavy wire reaching up thru the honey to the top of the funnel. When one can is full, cork up the funnel and carry it to another.

◆

Cuba as Seen by a Woman.—Mrs. G. E. Moe talks about Cuba in the Bee-Keepers' Review, and ends by saying:

> If one can surmount the obstacles of living without schools, churches, or society, or the ordinary conveniences of life; if one can live in a tent or a palm cabin, and pay exorbitant prices for dry-goods, groceries, freight, etc.; if one can keep bees free from death and disease thru the summer, one will be rewarded by an abundant flow of beautiful white honey of a fine quality during the winter.

◆

Tobacco-Smoke for Introducing queens seems to be quite in favor in the Bee-Keepers' Review. The introducing should be in the evening, and *every bee* should be reacht with the smoke.

◆

The Utter vs. Utter Case remains without new developments, but Gleanings in Bee-Culture gives some information as to the testimony given at the trial. It was charged that the bees stung the plaintiff's peach-trees, but it was shown that they were badly affected with the yellows, and the plaintiff told two of the witnesses that he was going to pull up 49 of the trees because they were so badly affected. The plaintiff's sons testified that they had seen bees attack peaches; that the bees *would stand on their hind legs* and probe or puncture a peach, and then fly away; which operation they had seen thru a magnifying-glass. Also:

> Another witness for the prosecution testified on direct examination that he saw a bee alight on a peach, and, calling his hired man, they watcht the bee, and the result was that the bee punctured the peach, obtained some juice, and flew away; that the peach showed a small puncture. On a cross-examination the lawyer askt, "Did you examine that peach *before* the bee alighted on it?" He replied that he did not; that there *might* have been a hole in it before he saw a bee on it.

Editor Root makes the following comments, which it is to be hoped will be heeded by many:

> It does not seem possible that the decision of the lower court will be sustained, but still we can not afford to take any chance; and the bee-keepers of the land, thru the National Bee-Keepers' Association, should contribute liberally toward the defense of this case by sending in their dollars as membership fee to General Manager Eugene Secor, Forest City, Iowa. If you are interested in this case, and desire to see justice done, and your own interests preserved, send in a dollar at once. You can not do it any too soon. Remember that an adverse decision in New York will affect every bee-keeper in every other State in the Union; and we must not let prejudice and ignorance blast or blight out the rights of the honest bee-keeper.

◆

Legislation as to Locality is a subject that was at one time discust with some degree of warmth, but for some time it has been sleeping. Now it seems to be trying to get its eyes open again, from the following stray straw by Dr. Miller, in Gleanings in Bee-Culture:

> The Australasian Bee-Keeper approaches the subject of a bee-keeper's right to territory in a somewhat gingerly manner, questioning the moral right to encroach on territory already occupied so long as other territory can be found, inviting discussion "with a view of establishing an etiquette or understanding between bee-keepers and their acknowledged rights to localities." Friend Pender, unless etiquette is stronger in Australia than here it will not keep a newcomer from encroaching, and I once got a whole lot of hot shot for saying law ought to back up etiquette.—[While etiquette in the matter of priority of rights is sometimes grossly violated, yet in my travels over the country I find that it has a larger sway and influence than you would imagine. There has been so much talk on the subject that all bee-keepers of the better class, I believe, are disinclined to encroach on the territory of their neighbor bee-keepers.—Ed.]

It is evident that there has been some change in the sentiment of bee-keepers in the passing years. At first the general sentiment seemed to be that there ought to be no sort of restriction in any way; that a bee-keeper had the right moral as well as legal to plant an apiary when and where he liked, and that there was something approaching to littleness and meanness in any man who would advocate the idea that there was any sort of wrong-doing on the part of a man who should plant an apiary on ground already fully occupied by others. Editor Root seems to be of the impression that this change of sentiment has been brought about by discussion, or because “there has been so much talk on the subject.” If the discussion has resulted in confirming this view among “all bee-keepers of the better class,” then it has been to that extent a good thing.

Perhaps it may not be far out of the way to say that the present general sentiment is something like this: “No man has the moral right to encroach upon bee-territory already fully occupied, and this fact is so generally recognized that there is no need of legislation on the subject.” It can hardly be a misinterpretation to quote Mr. Root as saying:

“While priority of rights is sometimes grossly violated, the feeling is so strong among all bee-keepers of the better class that such rights should be respected, that it is needless to talk about any means for greater security to those already occupying a given territory.”

That sounds well, but Mr. Root might learn that his words have in them very little salve for the sore feelings of those whom he mentions as having had their rights “grossly violated.” How would it do to apply the same reasoning to the matter of stealing, and paraphrase Mr. Root's words after this fashion?

“While etiquette in the matter of property rights is sometimes grossly violated, yet in my travels over the country I find that it has a larger sway and influence than you would imagine. There has been so much talk on the subject that all citizens of the better class are disinclined to appropriate their neighbors' property.”

In other words, 49 out of every 50 would not steal if there were no law against stealing, therefore, no law against stealing is needed. But the law is not meant for the 49, but for that one out of 50. So Dr. Miller might reply to Mr. Root that legislation was not needed for “bee-keepers of the better class,” but for those who “sometimes grossly violated” their neighbors' priority rights.

Admit that a man who is already occupying a certain territory has a moral right to its possession, and it seems reasonable to say: “The man who encroaches on territory that belongs to another is stealing, just as much as the man who steals a pound of honey, and if the law protects a man from having his honey stolen, it should also protect him from having his territory stolen.”

The weak part of the whole matter, however, will be found to be farther on than has yet been considered. If all bee-keepers should agree that it was the proper thing that a bee-keeper's moral rights should be made his legal rights, the real difficulty would come up in trying to decide how such laws should be framed, and how they should be carried out. Before Dr. Miller wastes any more breath trying to make it appear that legislation is necessary, let him give us a sample of a law that would commend itself as being at all practicable. It is easy to define property in honey or money, but to define property in the nectar of flowers in a certain territory is quite another thing.

◆

Grading of Honey by Color.—In this country there has been some discussion as to having colored cards or something of the kind as a standard for the color of extracted honey. The British Bee-Keepers' Association, according to the British Bee Journal, seems to be sending out tinted glass for the purpose, with the following instructions:

> One piece of the glass, supplied herewith, when held up to ordinary daylight (not in sunlight), shows the lightest shade allowable, and the two pieces in juxtaposition denote the darkest shade permitted in classes for medium-colored extracted honey.
>
> The test of color must be made with honey in glass jars similar to those in which it is to be exhibited, and in no other way.

The following more explicit instruction is given in the British Bee Journal:

> Place *one* piece of the glass alongside a jar of honey (similar to those in which the latter is to be staged), with a sheet of white paper as a background, and compare the respective colors of honey and glass when lookt at in a good light (not sunlight). If *not lighter* in color than the glass it is eligible. Then place the two pieces of glass together, and if the color, as seen thru *both* pieces, is *not darker* than the honey, it is also eligible in the medium class. Thus the glasses used singly and both together represent respectively the extreme shades of color (light and dark) beyond which it must not go.

◆

Driven Bees, or “naked colonies,” as the Germans call them, seem to be almost a staple article in some parts of the Old World. Such things are hardly known in this country, for the custom of “taking up” bees in the fall to get the honey has almost entirely died out. Editor J. B. Kellen says in the Luxemburgischen Bienenzeitung that such colonies, the bare bees with neither combs nor stores, weighing four or five pounds, can be had for 12 to 25 cents per pound, and if obtained in September or sooner, they may be used to advantage by those who have on hand the proper combs and stores to receive them.

◆

The Silver Linden is reported in Revue Internationale as being disastrously destructive to bees, thousands of their dead bodies being found on the ground under such trees, while no dead bees were found under the common linden. The silver linden is a superb tree, growing rapidly, but colonies in its neighborhood are so depopulated that it is advisable to move them to another locality as soon as the common linden is thru blooming, the silver blooming a little later than the common.

◆

Settling Swarms.—According to an item in Leipz. Bztg., a swarm that begins to settle in an unfavorable place, or does not settle at all, can be induced to settle where desired by the smell of burning wax. Throw some crumbs of old comb upon burning coals, and hold in such position that the ascending smoke will strike the bees, and they will as a rule turn toward the odor and promptly settle. It may be questioned whether bees in this country are so docile.

◆

To Improve Stock Thru Drones, J. S. Callbreath recommends in Gleanings in Bee-Culture the following:

> Each year select a number of colonies with pure queens, purely mated, that have stored a lot of honey and capt it white, and that have not swarmed. The next year rear an immense lot of drones from these colonies, and limit or entirely prevent drone-production in all others. In a very few years there will be a noticeable decrease in swarming—at least that is my experience.

Weekly Budget

Mr. O. O. Poppleton, of Dade Co., Fla., writing us Dec. 3d, said:

> “My bees are very strong for the time of year, with plenty of stores, and for the first time in years not a trace of bee-paralysis among them. Pennyroyal is just commencing to open its bloom.”

◆

Mr. A. E. Willcutt, of Hampshire Co., Mass., offers the following chapter of proverbs:

1. “Keep all colonies strong.”
2. He that keepeth his bees protected during winter is wise.
3. He that readeth the bee-papers shall obtain knowledge.
4. He that uniteth all weak colonies in the fall is also considered wise.
5. Leave no sweets exposed about the apiary, and by so doing prevent much robbing.
6. Watch, lest thy swarms go to the woods.
7. He that is slow about putting on supers may lose his reward.
8. Bees with long tongues make their owner to rejoice.
9. Be not too wise in thine own conceit.
10. He that loveth his bees ought surely to succeed.

◆

When Renewing Your Subscription why not send along the name of a new subscriber for the American Bee Journal? We offer a number of premiums for doing this, and also clubbing offers. This is the best time of year for new readers to begin, as by reading all winter they will be more ready to do something with bees next spring. There must be quite a large number of bee-keepers within easy distance of nearly all the present readers of the Bee Journal, who do not now get it, but who would subscribe if they were askt by one who knows just what the Bee Journal contains from week to week.

We would like to send sample copies to any bee-keepers you think would be inclined to subscribe, if you will kindly send us their names and addresses.

◆

Prices on Bee-Supplies for 1901.—We find the following paragraph in Gleanings in Bee-Culture for Dec. 1st, which will be of interest to intending purchasers of bee-keepers' supplies, as it indicates about what the prices will be for next year, at least so far as The A. I. Root Co. is concerned, and all who handle their goods:

> “We have decided to continue the prices in effect last season on hives and sections for the coming season, or until conditions warrant a further change. While the cost of lumber would warrant the advance proposed two months ago, we have concluded not to make it, but to be content with a narrower margin of profit. Bee-keepers have had two quite unfavorable years, which we have also felt in a reduced demand for supplies. We trust that, with the high prices prevailing for honey, and the favorable outlook for a clover crop the coming year, the demand will increase, and we shall be rewarded by increast business at the old price. The beeswax market is such that we shall have to advance comb foundation 2 cents a pound above last season's price. We are able to make lower prices on some other items.”

We presume then the prices of bee-keepers' supplies next season may safely be relied upon as being practically the same as during the past season. There was an apparent tendency to raise prices again, but we are glad that it has been found unnecessary to do so, except in the case of comb foundation.

Convention Proceedings.

Report of the Proceedings of the 31st Annual Convention of the National Bee-Keepers' Association, held at Chicago, Ill., Aug. 28, 29 and 30, 1900.

BY DR. A. B. MASON, SEC.

(Continued from page 775.)

DISCUSSION ON PURE FOOD LEGISLATION.

Mr. Moore—I would like to have Mr. Abbott go on and state specifically what we as individuals and organizations should do to have the Brosius Pure Food Bill past.

Pres. Root—I thought he did state that pretty clearly, didn't he?

Mr. Moore—Shall we each write a personal letter? or shall we as organizations pass resolutions and have those forwarded?

Mr. Abbott—Do both; you can't send too much. Let it hail, rain, and snow influence in Washington, and let them know that you mean business.

Mr. Hershiser—I would like to inquire what the length of this bill is; how much matter there is in it.

Mr. Abbott—Four pages in the original coarse type that bills are usually printed by the Senate; it is very coarse print.

Mr. Hershiser—It seems to me it would be quite interesting to bee-keepers to read this bill; it doesn't seem to me it would be out of place to have it publisht in the bee-papers; I would like to read it.

Mr. York—I would suggest it be publisht in conection with the report of this meeting.

Pres. Root—If there is no objection, and Mr. York is perfectly willing to do it, I think we would be glad to have him do so.

Mr. Benton—I couldn't possibly sit still and let one statement made by Mr. Abbott pass. He said the bee-keepers were represented in the second pure-food congress by one bee-keeper only; the first congress by Mr. Secor and himself. The National Bee-Keepers' Union appointed a delegate to both congresses; he was present and took part and formed a part of several different committees, particularly the committee on legislation—an important one—and was able to influence the wording of the bill in some respects; that member was also a member of the committee on resolutions, which past one or two important resolutions affecting the work of the congress, and one of those resolutions was proposed by the member as the chief resolution at one of the meetings of the congress. Utah also appointed the same delegate to represent the Utah State Bee-Keepers' Association at both congresses. It is due to the bee-keepers to mention that. I think it was an oversight on the part of Mr. Abbott. That delegate supported the Brosius Bill, feeling that it was the bill which gave the execution of this law into the hands of the Secretary of Agriculture; gave him the power to appoint those who should see to the execution of the law, which required everything to be labeled as to its contents. The Babcock Bill was designed, as far as I could ascertain myself, to put in office a few people who should have control of a large bureau, and give five or six political offices to people, and that seemed to be the sole reason of the existence of the Babcock Bill, and I think the delegates saw thru that and supported the Brosius Bill, which was widely supported.

Mr. Abbott—I think I misspoke myself a little. Mr. Benton is correct. If I said the bee-keepers, I meant this Association, and it had not occurred to me about the combination of the two associations, but the gentleman referred to was Mr. Benton himself, who was in all of these congresses, but at the last congress I had the impression that he represented the Government as a delegate. I hadn't any intention of making this society include the bee-keepers of the United States; I simply meant to say that this society sent only one delegate. Mr. Benton heartily supported the Brosius Bill, and I think he was a member of some of the important committees in every meeting that we have had. I didn't know whether he was a delegate from some State representing some bee-keepers' association, or whether he was a delegate from the Government; it doesn't cut any figure, anyway; he was there and gave his influence, and I am glad he called my attention to it. I had no disposition to misrepresent in any way. The reason I made the remark was that this Association was called upon to pay some expenses both times, and I knew that you hadn't paid anybody's expenses but mine for the two times, but Mr. Benton was the representative of the other society. I forgot we were then two societies; this is really the two societies now, as we united only last year.

Dr. Mason—I think it is only justice to say that this Association did not pay all of Mr. Abbott's expenses. I think he paid his own railway fare. At any rate, it didn't cost much; he gave his own time and lookt out for his own railroad fare, if I am correct.

Mr. Abbott—I happened to be able to "work" the railroads with my paper.

Dr. Mason—I didn't say how. I think it cost this Association only $20 the last time Mr. Abbott went.

Pres. Root—Anything further?

Mr. York—A number of bee-keepers have been asking whether or not Dr. Miller is going to be here. I received a letter yesterday morning, saying he expected to be here this morning, and now I have received this letter:

> FRIEND YORK:—I have strongly fought against giving up the intention to be at the convention, but it is no use. I regret it exceedingly, but I am not able to be up all the time, and there is no use fighting against it longer. I know the bee-keepers are all having a good time, and I am almost baby enough to cry that I can't shake hands with all of them when it is only two hours away. Give my best wishes to all of them. C. C. MILLER.

Pres. Root—We have about ten minutes more; and there are some very important and valuable questions to be discust. We might have one or two now.

Mr. Aikin will read the questions.

LUBRICATING COMB-FOUNDATION MACHINES.

Mr. Aikin—I will read a question and refer it for answer, viz.: "Would Pres. Root explain how to clean and lubricate a foundation machine. Which is the best make of soap to use for lubricating?"

Pres. Root—The plan we use ordinarily is a jet of steam. But as steam is something every bee-keeper doesn't have, and can't have, hot water can be used. A jet of steam is just turned onto the rolls, and the rolls being revolved while the jet of steam is turned on, will cause the rolls to become clean, and the wax will be blown off. If you haven't hot water use gasoline. I don't know any particular brand of soap, but you want a good washing-soap.

A Member—Ivory soap?

Pres. Root—I would prefer a soap a little stronger, something like Dobbins'.

Mr. Wood—The cheapest yellow soap you can get is best.

Pres. Root—You have to get a good deal of lye in it in order to make it work.

HIVING SWARMS IN A SHALLOW BROOD-CHAMBER.

Mr. Aikin—Here is a question for Mr. Hutchinson: "In hiving a swarm in one division of the Heddon hive, causing the queen to fill every cell with brood, and forcing the bees to carry all the honey up into the sections, how does Mr. Hutchinson keep the bees from storing pollen in the sections?"

Mr. Hutchinson—I don't have that trouble; but I can tell why it is. Where the sections are set over from the old colony, those sections are partly filled, and all the cells will contain some honey, so the bees don't put pollen into the cells, as they have honey in them; the cells below will have some honey and some pollen; bees don't store much pollen at the time they are filling cells with brood.

WINTERING BEES IN A COLD TEMPERATURE.

Mr. Aikin—"How is it best to winter bees where the temperature goes 10 degrees below zero?" For my part, I don't know; locality has something to do with that. In Colorado it will go 30 or 40 degrees below zero, and we winter bees right on the summer stands in single-wall hives. Where the temperature goes so low, and continues for a long time, and the bees have no opportunity to get warm, I suspect you would better winter them in the cellar; but in Colorado the thermometer may indicate 20 degrees below zero, or may be as many degrees above freezing; you see the conditions are altogether different. Here you may not see snow for a week or two at a time, and the thermometer lies in the zero neighborhood.

Mr. Moore—I would like to hear from Mr. France; he has commonly zero temperature up there.

Mr. France—I fully agree with what Mr. Aikin has said; much depends upon the location, and much depends upon climatic conditions. In the central part of our State (Wis.) last winter snow fell the forepart of November; that snow was still on the ground March 6. But in that northern country bees will winter successfully. Two years ago, when the thermometer was from 20 to 30 degrees below zero without a let up for a week, my bees were in chaff-packt hives, but wintered all right outdoors; a little more feed is required. The subject of wintering must be considered according to a man's surroundings.

BEST SMOKER-FUEL.

"What material is best for use for smoker-fuel?"

Mr. Aikin—I use rotten railroad ties. Nearly all the railroad ties in our country are pine, and I want the material so that it will burn freely, make a dense smoke without too much heat, and too much of the—I am not scientific enough to describe it—that pungent, sharp smoke. I often use burlap, but I like the rotten wood the best of all.

W. L. Coggshall—The best thing of all—everybody has the best thing—is phosphate sacks, or burlap; that is the best thing we ever had. Leave them out in the weather and let them rot partially, and then get them thoroly dry; set a couple of nails in your work bench, about four perhaps. It takes two to roll the burlap, a boy and a man; take a rod out of the back end of the wagon-box and roll this burlap over and over until you have a roll of burlap of the right size for your smoker; have strings cut just about long enough to go around that burlap, and tie it every four inches; pull out the rod when the roll is large enough. Then take a common axe, cut up the rolls into pieces as long as you want them for the smoker, say four inches. Be careful not to roll too tight, for if you do you might have to untie the string so the smoke would go thru. Put some salt-peter in a pan, and add water enough to have it about half an inch deep; put in some blueing to color the water nicely, dip the end of the pieces in this salt-peter water, and put them out to dry. Light with a match, and it will go like gunpowder. A bushel of this will last an apiary all summer. It is one of the nicest things I ever used, I will not except anything. Rotten wood and hard wood are too heavy and hot. I have laid a smoker down in a wagon and driven ten miles and had a good smoke then.

Mr. Moore—I think shavings is one of the best.

F. W. Hall—I would like to ask Mr. Coggshall if his fuel will drip the inky substance from the smoker. We have any amount of cottonwood in our country; it gets so rotten we can break it up with our fingers. Before it gets so rotten I take a buck-saw and saw it into blocks, probably two inches long, and split it up with a hatchet; that makes a good fuel that hasn't the inky substance in it. I have had no trouble with it whatever.

Mr. Coggshall—Wood has too much heat in it. This doesn't have so much. One of the bunches of burlap will last four or five hours of ordinary work.

David Coggshall—That is the beauty of this sacking; if it is thoroly dried and laid outdoors, as my brother says, you can work with it all day and not have any of the inky substance on the sections. It doesn't create a sediment (creosote) that drops out. It will burn all day long. There isn't anything equal to it, in my estimation.

W. L. Coggshall—There is no danger of fire; no sparks fly, but just remember to put the salt-peter on; you don't have to blow to get it started; it will go off quick.

Dr. Mason—Do you light it before you put it in the smoker?

Mr. Coggshall—Sure; and turn the lighted end next to the draft.

Mr. Benton—Mr. Bingham has had lots of experience in making bee-smokers; of course he wants those smokers to have the best reception among bee-keepers, and he has studied the question of fuel. In sending out directions he advises sound hickory or hard maple, cut in lengths to suit the smoker, and split fine. He says nothing about the manner of lighting the smoker; there would be a little difficulty, perhaps, with sound wood. I have used a great variety of fuel, and have never found anything better than solid hard wood split in small pieces the size of the finger, the proper length.

CLARIFYING HONEY-VINEGAR.

"What is the best way to make honey-vinegar clear?"

Mr. Aikin—I suppose the intent of the questioner is not to make the vinegar water-white, but to get the impurities out of it so it is a free liquid, may have color, but free of floating substance. I take this to be the intent of the questioner.

Dr. Mason—I askt that question, so I can give the information. My experience in making honey-vinegar is that it frequently will not settle and become clear. There is a species of cloudiness all thru it. I have had it in that condition two years, and I want to know how to make it settle or become clear. I have filtered it, have put it thru sand, and I don't know what not to get it clear, but it won't clear. I don't mean water-white; it may be very dark-colored vinegar and still be clear.

Mr. Funk—Take the white of eggs and beat until they froth; then take out some of the vinegar and mix it with it, and pour it into the bung-hole. Take a dozen eggs for your barrel, and take something like a gallon, or half gallon, and beat it up the way women beat eggs. Turn it into the bung-hole and stir it up, and you will have it clear. If that won't do it, I think a solution of isinglass would; they use that for clarifying wine.

J. M. Rankin—I don't think there is any precipitate that will not be taken out of a liquid by the use of chemist's filter-paper.

Pres. Root—Please explain what that chemist's filter-paper is.

Mr. Rankin—It is a paper that is prepared for this purpose, and the chemists use it in laboratories for taking a precipitate out of a liquid and making analyses. I don't know the cost of it, but it doesn't cost very much.

Dr. Mason—Where can we get it?

Mr. Rankin—Of druggists.

[Dec. 1.—I have tried the filtering paper referred to by Mr. Rankin, during this present week, and it does the work satisfactorily. It will enable me to prepare several barrels of vinegar for sale.—SECRETARY.]

PROPOLIS AS A MARKETABLE ARTICLE.

"Can bee-keepers collect propolis in sufficient quantity to be profitable at 50 cents per pound?"

Mr. Aikin—I don't know.

Mr. Benton—I would say I think so. I have scraped hives sometimes and then found at the expiration of another week that fair-sized hives would produce it weighing surely a quarter of a pound, or enough to make about a dollar a month. I have collected 30 or 40 pounds this way with a view of seeing what I could make for a varnish for bee-hives; it can be dissolved in wood alcohol and utilized in that fashion. It seems to me there are a very great variety of uses to which it can be put. In some of the old countries poor people go about and collect propolis and make varnish for furniture; they give a small sum for the privilege of taking old hives, that have been knockt apart and are to be put together again and used, to get the privilege of cleaning the inner surface. Those shavings are then treated with wood alcohol, and the shavings thrown away. Of course, labor is very cheap there. I would not suppose a man could produce propolis as a business. I think 50 cents a pound would pay us to collect it as we go along.

Pres. Root—I would state there is a limited market for propolis here, and any one who has a quantity may dispose of it if he desires.

Mr. York—I would like to say further on this subject that a gentleman from New York, who is interested in the manufacture of oils and polishes, has stopt off here, and has been talking to some of us about gathering propolis. He can use perhaps a ton of it a year, and has made an offer of 50 cents a pound. Mr. Benton is now showing the bottom of his hand-satchel on which the gentleman put a coating of this polish, and it is quite nice. It is good also for polishing floors and harness; it is water-proof. He uses in it, I think, two pounds of the propolis to a gallon of the polish, and he could afford to pay 50 cents a pound for the propolis. He wanted the question brought up to see whether bee-keepers could supply it—see whether it was worth while for them to save it. It is a very nice polish. He put it on the shoes of a gentleman in the hall, as well as on the bottom of Mr. Benton's satchel; he says it will retain its luster for three months. Of course, it won't on your shoes when you wear them, but it will last about a week on them. It might pay the bee-keepers to look into this and see what they could do along the line of saving propolis. It is a subject I think we should think about.

At the suggestion of Pres. Root the convention adjourned to 1 o'clock p.m.

Continued next week.)

THE BROSIUS PURE FOOD BILL.

Mr. Brosius introduced the following bill in the House of Representatives, March 16, 1900, which was referred to the Committee on Interstate and Foreign Commerce, and ordered to be printed:

A BILL

For preventing the adulteration, misbranding, and imitation of foods, beverages, candies, drugs, and condiments in the District of Columbia and the Territories, and for regulating interstate traffic therein, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

That for the purpose of protecting the commerce in food products and drugs between the several States and in the District of Columbia and the territories of the United States and foreign countries, the Secretary of Agriculture shall organize the Chemical Division of the Department of Agriculture into a bureau of chemistry, which shall have the direction of the chemical work of the present Division of Chemistry, and of the chemical work of the other Executive Departments, whose respective heads may apply to the Secretary of Agriculture for such collaboration, and which shall also be charged with the inspection of food and drug products, as hereinafter provided in this Act. The Secretary of Agriculture shall make necessary rules and regulations for carrying out the provisions of this Act, under which the Director of the Bureau of Chemistry shall procure from time to time, or cause to be procured, and analyze, or cause to be analyzed or examined, chemically, microscopically, or otherwise, samples of foods and drugs offered for sale in original unbroken packages in the District of Columbia, in any Territory, or in any State other than that in which they shall have been respectively manufactured or produced, or from a foreign country, or intended for export to a foreign country. The Secretary of Agriculture is hereby authorized to employ such chemists, inspectors, laborers, and other employees as may be necessary to carry out the provisions of this Act, and to make such publication of the results of examinations and analyses as he may deem proper.

SEC. 2.—That the introduction into any State or Territory or the District of Columbia from any other State or Territory or the District of Columbia, or from any foreign country, or shipment to any foreign country of any article of food or drugs which is adulterated or misbranded within the meaning of this Act is hereby prohibited, and any person who shall ship or deliver for shipment from any State or Territory or the District of Columbia to any other State or Territory or the District of Columbia, or to a foreign country, or who shall receive in any State or Territory or the District of Columbia from any other State or Territory or the District of Columbia or foreign country, or who, having received, shall deliver, in original unbroken packages, for pay or otherwise, or offer to deliver to any other person, any such article so adulterated or misbranded within the meaning of this Act, or any person who shall sell or offer for sale in the District of Columbia or in any Territory of the United States such adulterated, mixt, misbranded, or imitated foods or drugs, or export or offer to export the same to any foreign country, shall be guilty of a misdemeanor, and for such offense be fined not exceeding two hundred dollars for the first offense, and for each subsequent offense not exceeding three hundred dollars, or be imprisoned not exceeding one year, or both, in the discretion of the court.

SEC. 3.—That the Director of the Bureau of Chemistry shall make, or cause to be made, under rules and regulations to be prescribed by the Secretary of Agriculture, examinations of specimens of food and drugs offered for sale in original unbroken packages in the District of Columbia, in any Territory, or in any State other than that in which they shall have been respectively manufactured or produced, or from any foreign country, or intended for shipment to any foreign country, which may be collected from time to time in various parts of the country. If it shall appear from such examination that any of the provisions of this Act have been violated the Secretary of Agriculture shall at once certify the facts to the proper United States district attorney, with a copy of the results of the analyses, duly authenticated by the analyst under oath.

SEC. 4.—That it shall be the duty of every district attorney to whom the Secretary of Agriculture shall report any violation of this Act to cause proceedings to be commenced and prosecuted without delay for the fines and penalties in such case provided.

DEFINITIONS.

SEC. 5.—That the term "drug," as used in this Act, shall include all medicines and preparations recognized in the United States Pharmacopœia for internal or external use. The term "food," as used herein, shall include all articles used for food, drink, confectionery, or condiment, by man or domestic animals, whether simple, mixt, or compound. The term "misbranded," as used herein, shall apply to all drugs, or articles of food, or articles which enter into the composition of food, the package or label of which shall bear any statement regarding the ingredients or substances contained in such article, which statement shall be false or misleading in any particular, and to any food or drug product which is falsely branded as to the State, Territory, or country in which it is manufactured or produced.

ADULTERATIONS.

SEC. 6.—That for the purposes of this Act an article shall be deemed to be adulterated—

In case of drugs:

First.—If, when a drug is sold under or by a name recognized in the United States Pharmacopœia, it differs from the standard of strength, quality, or purity, as determined by the tests laid down in the United States Pharmacopœia, official at the time of the investigation.

Second.—If its strength or purity fall below the profest standard under which it is sold.

Third.—If it be an imitation of or offered for sale under the name of another article.

In the case of confectionery:

If it contain terra alba, barytes, talc, chrome yellow, or other mineral substances, or poisonous colors or flavors, or other ingredients deleterious or detrimental to health.

In the case of food:

First.—If any substance or substances has or have been mixt and packt with it so as to reduce or lower or injuriously affect its quality or strength, so that such product, when offered for sale, shall deceive or tend to deceive the purchaser.

Second.—If any substance or substances has or have been substituted wholly or in part for the article, so that the product, when sold, shall deceive or tend to deceive the purchaser.

Third.—If any valuable constituent of the article has been wholly or in part abstracted, so that the product, when sold, shall deceive or tend to deceive the purchaser.

Fourth.—If it be an imitation of or offered for sale under the specific name of another article.

Fifth.—If it be mixt, colored, powdered, or stained in a manner whereby damage or inferiority is concealed, so that such product, when sold, shall deceive or tend to deceive the purchaser.

Sixth.—If it contain any added poisonous ingredient or any ingredient which may render such article injurious to the health of the person consuming it.

Seventh.—If it be labeled or branded so as to deceive or mislead the purchaser, or purport to be a foreign product when not so, or is an imitation, either in package or label, of another substance of a previously establisht name, or which has been trade-markt or patented.

Eighth.—If it consists of the whole or any part of a diseased, filthy, decomposed, or putrid animal or vegetable substance, or any portion of an animal unfit for food, whether manufactured or not, or if it is the product of a diseased animal, or one that has died otherwise than by slaughter:

Provided, That an article of food which does not contain any added poisonous or deleterious ingredient shall not be deemed to be adulterated in the following cases:

First.—In the case of mixtures or compounds which may be now, or from time to time hereafter known as articles of food, under their own distinctive names, and not included in definition fourth of this section. Second. In the cases of articles labeled, branded or tagged so as plainly to indicate that they are mixtures, compounds, combinations, imitations, or blends: *Provided*, That the same shall be labeled, branded, or tagged, as prescribed by the Secretary of Agriculture, so as to show the exact character thereof. *And provided further*, That nothing in this Act shall be construed as requiring or compelling proprietors or manufacturers of proprietary foods which contain no unwholesome added ingredient to disclose their trade formulas, except in so far as the provisions of this Act may require to secure freedom from adulteration or imitation: *Provided further*, That no dealer shall be convicted under the provisions of this Act when he is able to prove a written guaranty of purity, in a form approved by the Secretary of Agriculture, as publisht in his rules and regulations, signed by the manufacturer, or the party or parties from whom he purchast said articles: *Provided also*, That said guarantor or guarantors reside in the United States. Said guaranty shall contain the full name and address of the party or parties making the sale to the dealer, and said party or parties shall be amenable to the prosecutions, fines and other penalties which would attach in due course to the dealer under the provisions of this Act.

SEC. 7.—That it shall be the duty of the Secretary of Agriculture to fix standards of food products when advisable, and to determine the wholesomeness or unwholesomeness of preservatives and other substances which are or may be added to foods, and to aid him in reaching just decisions in such matters he is authorized to call upon the Director of the Bureau of Chemistry and the chairman of the committee on food standards of the Association of Official Agricultural Chemists and such physicians, not less than five, as the President of the United States shall select, three of whom shall be from the Medical Department of the Army, the Navy, and the Marine Hospital Service, and not less than five experts, to be selected by the Secretary of Agriculture by reason of their attainments in physiological chemistry, hygiene, commerce and manufacture, to consider jointly the standards of all food products (within the meaning of this Act), and to study the effect of preservatives and other substances added to food products on the health of the consumer; and when so determined and approved by the Secretary of Agriculture such standards shall guide the chemists of the Department of Agriculture in the performance of the duties imposed upon them by this Act, and shall remain the standard before all United States courts. It shall be the duty of the Secretary of Agriculture, either directly or thru the Director of the Bureau of Chemistry and the chairman of the committee on food standards of the Association of Official Agricultural Chemists and the medical officers and experts before mentioned, to confer with and consult, when so requested, the duly accredited representatives of all industries producing articles for which standards shall be establisht under the provisions of this Act.

SEC. 8.—That every person who manufactures or produces for shipment and delivers for transportation within the District of Columbia or any Territory, or who manufactures or produces for shipment or delivers for transportation from any State, Territory, or the District of Columbia to any other State, Territory, or the District of Columbia, or to any foreign country, any drug or article of food, and every person who exposes for sale or delivers to a purchaser in the District of Columbia or in any Territory, any drug or any article of food manufactured or produced within said District of Columbia or said Territory, or who exposes for sale or delivers for shipment any drug or article of food received from a State, Territory, or the District of Columbia other than the State, Territory, or the District of Columbia in which he exposes for sale or delivers such drug or article of food, or from any foreign country, shall furnish within business hours, and upon tender and full payment of the selling price, a sample of such drugs or articles of food to any person duly authorized by the Secretary of Agriculture to receive the same, and who shall apply to such manufacturer, producer, or vendor, or person delivering to a purchaser such drug or article of food for such sample for such use, in sufficient quantity for the analysis of any such article or articles in his possession. And in the presence of such dealer and an agent of the Department of Agriculture, if so desired by either party, said sample shall be divided into three parts, and each part shall be sealed by the seal of the Department of Agriculture. One part shall be left with the dealer, one delivered to the Director of the Bureau of Chemistry of the Department of Agriculture, and one deposited with the United States district attorney for the district in which the sample is taken. Said manufacturer, producer, or dealer, may have the sample left with him analyzed at his own expense, and if the results of said analysis differ from those of the Department of Agriculture, the sample in the hands of the district attorney may be analyzed by a third chemist, who shall be appointed by the president of the Association of Official Agricultural Chemists of the United States, and the analysis shall be conducted, if so desired, in the presence of a chemist of the Department of Agriculture and a chemist representing the dealer, and the whole data obtained shall be laid before the court.

SEC. 9.—That any manufacturer, producer, or dealer who refuses to comply, upon demand, with the requirements of Sec. 8 of this Act shall be guilty of a misdemeanor; and upon conviction shall be fined not exceeding one hundred dollars, or imprisoned not exceeding one hundred days, or both. And any person found guilty of manufacturing, or offering for sale, or selling an adulterated, impure, or misbranded article of food or drug in violation of the provisions of this Act shall be adjudged to pay, in addition to the penalties hereinbefore provided for, all the necessary costs and expenses incurred in inspecting and analyzing such adulterated articles which said person may have been found guilty of manufacturing, selling, or offering for sale.

SEC. 10.—That this Act shall not be construed to interfere with commerce wholly internal in any State, nor with the exercise of their police powers by the several States.

SEC. 11.—That any article of food or drug that is adulterated or misbranded, within the meaning of this Act, and is transported or being transported from one State to another for sale, or if it be sold or offered for sale in the District of Columbia and the Territories of the United States, or if it be imported from a foreign country for sale, or if intended for export to a foreign country, shall be liable to be proceeded against in any district court of the United States, within the district where the same is found and seized for confiscation, by a process of libel for condemnation. And if such article is condemned as being adulterated the same shall be disposed of as the said court may direct, and the proceeds thereof, if sold, less the legal costs and charges, shall be paid into the Treasury of the United States; but such goods shall not be sold in any State contrary to the laws of that State. The proceedings in such libel cases shall conform, as near as may be, to proceedings in admiralty, except that either party may demand trial by jury of any issue of fact joined in such case; and all such proceedings shall be at the suit of and in the name of the United States.

Contributed Articles.

How to Know How to Look for the Queen-Bee.

BY W. W. M'NEAL.

HERE is a little kink, dear reader, which I think may be worth your while to consider. It is in regard to finding a queen-bee easily and quickly when the hive is densely crowded with bees.

When these conditions prevail, the queen's whereabouts may, to a very great extent, be determined by noting the position the ventilating bees occupy at the entrance to the hive. I have not yet found it otherwise that when these bees were stationed at one side of the hive-entrance, the queen was not to be found upon the combs at the other. No doubt you have many times noticed that the bees upon the alighting-board, that are engaged in ventilating the hive, frequently change their position from that of one side of the entrance to that of the other side. Of course, when the entrance is small, not being the full width of the front of the hive, this becomes no longer a means of judging of "internal conditions by external signs."

If the hive contains nine frames, or ten frames, or possibly more, and these frames are self-spacing, it is a wonderful saving of time to be enabled to confine your search to half that number, with a reasonable degree of certainty of finding the queen upon one of the number you have selected.

HOW TO CATCH A QUEEN, WHEN FOUND, WITHOUT INJURING HER.

If the work of finding the queen has been pursued properly, not carelessly provoking the bees to anger, they seldom resent an attempt, on the part of the apiarist, to take the queen when she is found upon the comb. Having a small cage in readiness, and a piece of wire about the size of an ordinary slate-pencil, one end of which has been bent to form a circle an inch and a half in diameter, it is an easy matter to lift the queen from the comb and secure her in the cage. It being the habit of the queen to run away from under the eye of the operator, she will, when corralled with this piece of wire, quickly attempt to climb out of the enclosure, especially so when the frame is slightly jarred or the breath is gently blown upon her. In doing the latter, it is well to remember that unless the bees have been properly subdued, they are apt to show a very decided resentment. Now, when the queen is crossing the wire, and before she can catch hold of the comb again with her front feet, lift her off the comb. A fertile queen takes wing very reluctlantly, and there is little danger of losing her, for the left hand is to be placed over her at once, while the cage is held in the right, allowing the queen to run up out of the closed fist of the left hand into the well-lighted cage above. All this can be done very quickly, with no danger, practically, of hurting the queen.

HO! THE ASTER FLOWER!

I want to speak of the wild aster—the "little daisies,"—which bloom here beginning about Sept. 20, and continue thruout the greater part of October. At no time during the season of bee-work do I find my enthusiasm running so high as when these flowers are in full bloom. When the atmospheric conditions are most favorable for nectar secretion, the little blossoms seem fairly to drip with the crystal juices. The aroma is exceedingly pronounced, and it can easily be detected by one when several hundred yards from the apiary, upon a still evening after a good day's work by the bees.

When first gathered the honey is so thin that it will run out of the combs, if great care is not used in handling them. As to color, it ranks well with white clover, and owing to its most peculiar flavor, and the intimate acquaintance I have formed with it, I am very fond of aster honey. However, it has a habit of granulating very quickly, even excelling in this the celebrated alfalfa honey. I believe it is a rule that whenever bees are enabled to gather a load of nectar quickly, and likewise enabled to dispose of it by having the hive provided with an abundance of storage-room—ready-drawn combs—the honey has an increast tendency to granulate.

The Italian bees, as all know who have tested their merits as honey-gatherers, are largely inclined, during a *good* honey-flow, to devote themselves more to the storing of honey than to the rearing of brood. Now this trait of the Italian bee is not altogether an advantage here, for I have known large colonies of these bees rendered practically worthless at the closing of the season of the aster bloom by their indisposition to remain at home to act in the capacity of a nurse when honey in abundance awaits them in the fields. The early honey harvest having closed ere the latter days of July, the greater part of the colony is represented in field-workers, well advanced in life, just as they enter upon the period when is to be made the wildest rush for honey during the entire season. The brood-combs are quickly filled with honey from top to bottom, and the space occupied by brood growing smaller all the while, till it becomes practically nothing. The queen may approve of this, or it may be that she does not, tho the giving of extracting-combs does not divert, to any appreciable extent, their purpose to store in the combs below.

With hybrid bees the case is somewhat different; and with the pure black bees I find it is largely so. They will nearly always be found, at the close of the season, in better condition as regards *bees* to withstand the climate, but less fitted in stores.

The aster plants, when once introduced along the roadside and in the waste places, quickly overrun the meadow-lands, therefore the farmers regard it as a hateful weed, and are always on the alert to prevent its getting a start. But with all their vigilance the aster somehow seems to flourish, and it is no uncommon thing for a good bloom to appear before the arrival of cool weather, upon the same land from which a crop of hay has been harvested.

A field of asters in full bloom is pretty to look upon, at least when considered wholly in the light of a honey-plant. The snowy whiteness is approacht unto, not equaled, by the old-time buckwheat; for the aster excels both in beauty and in nectar secretion. Coming at a time of the year when all other plants, from whose flowery fountains the bees gather honey, have long since dried up, its importance to the bee-keeping industry becomes second to no flower that blossoms in the Ohio valley. Scioto Co., Ohio, Nov. 2.

* * *

The Premiums offered this week are well worth working for. Look at them.

Queen-Rearing Apiary of D. J. Blocher.

A Queen-Rearing Apiary in Northern Illinois.

BY D. J. BLOCHER.

My queen-rearing apiary is located in a village of about 700 inhabitants. There are houses all around me. To the left of the apiary is a dense growth of raspberries, and behind the raspberries the Warfield strawberry. At the bottom of the picture is shown a dense growth of vegetables. Back of the apiary about 40 feet is a street, and to the right (but not seen) about 60 feet is another street. I am in the corner of a block. To the right of the picture, near the center, is part of a circle—this is a walk running between the apiary and my house. This walk is used all the time, and is only about 15 feet from the first bee-hives.

The girl in the picture is my oldest daughter, Ruth. She is standing very close to the hives.

I am in the early garden-plant business, and some small fruit, too. The two streets that bound our lots on two sides are the finest in town.

We keep the apiary mowed with a lawn-mower, as well as the streets. All together it makes a nice scene in summer time, and with all the visitors and customers my bees have given no trouble to any one. They do not even molest the family, that are all the time about.

My yard is now put on improved plans for rearing improved queens. Inferior bees will not be allowed in this yard. It has some very fine queens, and bees that are not behind in the production of honey. The past three years have been very poor, and yet my honey colonies averaged from 75 to about 100 pounds of honey. (These honey-bees produce the drones for mating purposes.) Visitors to my yard are captivated by the industrious, gentle bees.

In order to get a front view of the apiary we had to take a bird's-eye view of the yard. The hives are not all seen.

Stephenson Co., Ill.

Cementing the Floor of a Bee-Cellar.

BY F. WILCOX.

On page 711 Mr. Whitmer asks opinions about cementing the floor of his bee-cellar. His cellar is a good one. I have a cellar under my house very nearly like his. I used it three or four years, then cemented it well, and have used it about 20 years since.

All things considered, I would advise cementing the cellar-bottom, if it is under the house he lives in. Soft sand makes a poor floor. The first two winters after cementing mine, I thought the bees did not winter quite so well as before cementing it, but I cemented the side-walls as well as the bottom, which is not necessary.

If well cemented, the dead bees can be swept up and carried out as often as desired. After carrying the bees out in the spring, the floor can be scrubbed and kept as clean as any floor. If dead bees are trampt down in carrying out, it may need whitewashing. It can be cleaned.

A ground floor is good enough for an outside cellar, where a portion of the dead bees can be trampt down and left without further ceremonies.

For scraping propolis from sections I like a light cellar with a ground floor, where the propolis can be trampt in the dirt. I think bees need very little ventilation in cellars, and a draft of cool air is hurtful. Good food is quite as important as good air. But if the cellar is not right, they may have good food when put in and very poor food when taken out. The honey may absorb moisture and sour in the hive. I leave the bottom-boards in the yard all winter, and have better success than when I leave them on the hives. If bottom-boards were nailed on, I would pry them off, or perhaps bore a hole in the front end of the hive for better ventilation.

I put 99 colonies in the cellar to-day, and 175 colonies last week. They are a little lighter in stores than usual, but I think they will winter.

Juneau Co., Wis., Nov. 22.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Combs that Seem to Have the "Blues."

What is the matter with my bees? All seem to be doing well, but some have combs that have a bluish-white color, and have a strange smell. I don't think it is foul brood, as they did this same thing last year, in the fall, but came out all right in the spring. OHIO.

ANSWER.—I have seen what I suppose is the same thing many a time, and don't know why it is. It looks a little like a kind of mold, but no harm seems to come from it.

◆

Laying More than One Egg in a Cell.

There is one clause in Dr. Corya's letter that you seem to have overlookt—"lay two or more eggs in a cell"—which I think shows very plainly that the fault is in himself instead of the queens. I have never known a queen to lay more than one egg in a cell unless she was crowded. Those queens are, I have no doubt, prolific, producing the eggs, and must lay them somewhere, and all the cells being occupied she puts in another egg instead of dropping it, as queens often do. I think you have sometimes exprest the same thing.

I have never reared a queen for sale, but have bought quite a number, mostly untested, but have never felt like censuring the breeder. WYOMING.

ANSWER.—You are right that a queen will lay only one egg in a cell so long as she has room, but bees are so much inclined to make exceptions to all rules that I would not like to crowd too hard upon that point.

◆

Bees Dying in a Colony—Plain Sections to Hold a Pound.

1. My bees are packt on the summer stands, and when I examine them I find many more dead bees in front of the hive containing my "premium queen" than any other, and by looking in at the entrance I see that the bottom is covered. I fed this colony quite late with sugar syrup made as follows:

I tied a clean white cloth over the end of a common tin funnel and put it in a glass fruit-jar, then filled the funnel full of the best granulated sugar, and poured on cold water till it stood half an inch deep over the sugar. I let it percolate thru, and fed it as it came thru. It seemed very nice and thick. Could this have anything to do with their dying off so?

2. What width of plain sections do I want to use with fence-separators, to insure their holding a full pound (4¼x4¼ sections)?

3. If I fold the sections and put in the foundation during the winter, and pack them away in boxes, will the bees work it as freely and easily next summer as they would if put in just before placing on the hive? IOWA.

ANSWERS.—1. Late feeding of syrup might be enough to account for the trouble. August and September are the best months to make sure bees have enough for winter, if sugar and water is to be the feed.

2. You may as well give up first as last the idea that you can settle on any size of section that will always give just a pound in weight. If you should find a size that would make the average weight of your sections exactly a pound this year, there might be a difference of an ounce or two next year. The season has a good deal to do with it as well as the management. I have just figured up the weight of the ordinary 4¼ section, taken in two different years at random. In one year the average weight was 14.45 oz., in the other 15.29 oz. It may be that some years would show a weight lighter than either, and some years heavier than either.

But some approximation can be made. If the uprights of the fences be 5–32 of an inch thick, then a plain section should be about 5–16 of an inch narrower than a plain section of the same length and height to be of the same weight. According to that, a season and management that would make a bee-way section 1⅞ wide weigh 15 ounces, would need a plain section about 1 19–32 wide to weigh a pound.

3. Some think there is a decided difference, but I have always believed the difference so little that the foundation is always put in in the winter, and then the supers are filled ready to put on the hive. Sometimes they stand 2 or 3 years before the bees get them, and it seems to work all right.

◆

Bees Balling Queens.

In your answer to my question about bees balling their queens, you seem to think the trouble has been on account of my disturbing the ball, or that they were superseding, that there is nothing unusual with the bees. If you will carefully read my statement of the cause you will see that your supposition is incorrect. Whenever I find a ball I cage the queen, and liberate her after a few days. You did not notice that I said that when two swarms settle together, or I unite two colonies, they kill both queens, or I afterwards find them queenless. If I changed places with two hives, or put a few strange bees into a hive, the queens are very sure to disappear. WYOMING.

ANSWER.—This is only another illustration of the many cases in which I imagine I know something, when I really don't know. There is certainly something exceptional about such fatality with queens, and I'd give a cooky to be with you a few days to see if we could ferret out the mystery. Possibly, however, I couldn't tell a thing about it if I were there.

◆

What Ailed the Bees?

I had 32 colonies wintered on the summer stands come thru last winter all right, and were in splendid shape for business. When fruit-bloom opened a number of colonies apparently were getting ready to swarm, when all at once there appeared to be not half so many bees as there were a few days before. I learned since that a neighbor less than a half mile from my bees sprayed his 7-acre orchard when in full bloom. I have lost 11 colonies the past season. They did not die right away, but lingered along thruout the season, two giving up as late as October. Almost all have queens, but little brood in the comb, just here and there one; the queen is stupid, doesn't care to get out of the way. I examined carefully one colony that was affected. The second time I opened the hive I found brood, but it was scattering. In about 3 weeks I examined the same comb again, and found the brood on both sides about 6 inches, in all stages of growth. If poisoned, has the colony gotten over it? Would the poison gathered at fruit-bloom affect the queens all summer?

I thought at first there might be foul brood among my bees, or some other disease, but there is nothing to indicate foul brood from the descriptions I have read.

ILLINOIS.

ANSWER.—I confess I don't know enough to answer, and will be glad if any one will help us out. Without having any positive knowledge of the matter, I have always supposed that bees poisoned in fruit-bloom would soon get over its effects; but I may be all wrong in that, and it may be that the queen may be permanently injured. The colony that showed increast amount of brood at the last examination has at least the appearance of recovery.

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PROF. A. J. COOK—California
DR. C. C. MILLER—Illinois } *Reviewers and Critics.*
G. M. DOOLITTLE—New York

That the A B C of Bee-Culture may be found reliable, and the readers have the views of others in different parts of the country, we have engaged the above-named parties to go over the book. In the case of errors the same have been corrected. In the comments of Miller and Doolittle which are publisht in the book, our readers will find a veritable mine of information. See what the Ohio Farmer says:

"It is a veritable cyclopedia of bee-culture and contains about all one would want to know to engage in practical bee-keeping. The work is practical and up-to-date. It is concise, and able, clear and comprehensive. Bee-keepers should have it."

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"Put my name down on your list for new issue of the A B C of Bee-Culture. The one I have is very old; I received it as a present from a bee-teacher some years ago. I wish I knew enough to translate it for it is *worth its weight in gold* and would do lots to advance bee-culture in this country." ROBT. LUACES.

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THE A. I. ROOT COMPANY,
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GENERAL ITEMS

Report for the Past Season.

About half a crop of extracted honey and only about ¼ of a crop of comb seems to have been the general result among southern Indiana bee-keepers the past season. A severe drouth in July played sad havoc with the bees; I lost 20 colonies by starvation. My best colony gave me nearly 200 pounds of extracted honey. Their queen is a Cyprian-Italian hybrid, and her workers show an enormous tongue-reach.

The retail price of comb honey has advanced from 15 to 20 cents, and extracted is in fair demand at 12½ cents in a small way. Our best honey was from the dry-weather honey-vine which has not entirely failed to yield some surplus in the past 8 years.

J. C. WALLENMEYER.

Vanderburgh Co., Ind., Nov. 22.

Dry Season—Prospects Good.

This is a poor locality for bee-keeping, and I have had but little success. This has been the driest season we have had in Dakota since I came here; we secured very little surplus honey, and had to feed some of the colonies for winter. I think we will have a better season the coming year, as there has been a good deal of fall rain here. F. GRASSER.

Barnes Co., N. Dak., Nov. 26.

Fine Looking Buckwheat Honey.

I began keeping bees 4 years ago, and now have 13 colonies, and take most of the care of them myself. For two seasons I have not secured any honey during the summer, but this year my fall crop was 300 sections of fine buckwheat honey. I use separators, and thus have fine looking honey. I sell it at home for 14 and 15 cents a section.

The Bee Journal helps me often, and I think it pays to take it as long as I get some honey, even if my crop is small. Good luck to it.

MRS. WM. HAAS.

Venango Co., Pa., Nov. 28.

No Fall Honey—Figwort.

I commenced the spring of 1900 with 24 colonies of bees, and increast to 30 (but had only two natural swarms), and secured 760 pounds of extracted honey. The weather was fair, and we had plenty of blossoms, but the flowers had no nectar in them.

The fall flowers yielded but little, but the bees got enough to fill up for winter, and the

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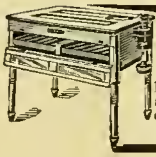

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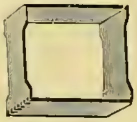

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Please mention the Bee Journal when writing Advertisers.

prospect for next year is fine, as we had plenty of rain during the latter part of the season, and white clover got a good start.

While feeding my pigs early one morning in a timber lot, I noticed several fine plants of figwort. A bee hovered over one of the plants, and after awhile it settled on a blossom and remained there a long time, then selected another, and another, and at the third blossom it got a full load and started off for home. I broke off a twig, and opened some of the flowers and found what lookt like a drop of rain-water in it. It was only the flowers that had opened during the night that showed so much nectar.

An acre of figwort with all the blossoms filled like that, would keep several colonies of bees busy. Fred Bechly.

Poweshiek Co., Iowa, Nov. 24.

Well Supplied with Stores.

Bees did fairly well here this season. They are well supplied with winter stores, and are flying a little every day. W. H. Hough.

Santa Fe Co., New Mex., Nov. 23.

Bees Didn't Do Much.

My bees did not do much this year. I secured only about 400 pounds of surplus honey from 35 colonies.

I was in Chicago during the encampment of the Grand Army, but was taken sick while there and was unable to attend the National convention of bee-keepers.

I like the Bee Journal very much.

Spencer S. Buxton.

Erie Co., N. Y., Dec. 2.

Prospect for Honey Next Year.

With other blessings we have rain to be thankful for, which means a prospect for honey the coming season. I have 112 colonies of bees in good condition.

Frances P. Sargent.

San Bernardino Co., Calif., Nov. 29.

Poor Season—No Increase.

Bees did poorly here this season. I had 256 colonies last spring, and did not increase any. I secured only about 1500 pounds of comb honey and 2500 pounds of extracted. Bees are in fine condition for winter.

E. C. Feathers.

Waupaca Co., Wis., Nov. 24.

Results of the Season of 1900.

We have taken about 900 pounds from over 15 colonies this season, and sold it all at 25 cents—both comb and extracted—right here in town, and there were others selling theirs for less, too. The extracted sold more readily than comb, as soon as people began to find out that it was *real, true* honey. We tasted each comb before extracting, and saved all

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Why Own the Novelty Knife? In case a good knife is lost, the chances are the owner will never recover it; but if the "Novelty" is lost, having name and address of owner, the finder will return it; otherwise to try to destroy the name and address, would destroy the knife. If traveling, and you meet with a serious accident, and are so fortunate as to have one of the "Novelties," your POCKET-KNIFE will serve as an identifier; and in case of death, your relatives will at once be notified of the accident.

How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

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SURE HATCH INCUBATOR CO., Clay Center, Nebraska.

bitter honey to feed back after the season was over.

Our bees are in a little pine grove near the house. For wintering we drive stakes, and wind with common wrapping-twine, then fill in with pine-needles and leaves to the top of the hive (except the front, which is left uncovered.) We put an empty super on top of the hive, then fill cheese-cloth bags with dry maple leaves, the bags being just a fit for the super. We put slats across the super to keep the bags from falling down on the frames, thus giving the bees space to crawl over the top of the frames, and like this better than the chaff hives.

We put covers of matcht ½-inch boards, 3½ feet square, and close the entrance by putting a little strip under, leaving a space 3 or 4 inches long, and high enough for bees to crawl out. Bees winter-killed all about here last winter, but ours wintered finely.

L. E. AMMIDOWN.

Worcester Co., Mass., Nov. 25.

Bees Did Very Nicely.

My bees did very nicely this year, having taken over 200 pounds of honey from 5 colonies. Three other colonies did not store any surplus. One colony produced 80 pounds of comb honey, which is pretty good for this part of the country.

F. D. KEYES.

Hampshire Co., Mass., Nov. 30.

Cotton as a Honey-Plant.

On page 718, R. P. Davies, of Lamar Co., Tex., says, "The cotton-plant is our mainstay here for honey, and it is a good one." Considering the time it continues to bloom one would think it a great boon to Southern bee-keepers, but I don't think it anything extra, tho the bees do work on it.

We have a great variety of prairie blossoms here in the spring, which are our main source

We Can't Give Away Anything

You pay for what you get in this world. You understand that. But as a business proposition we want you to try our great medicine for Indigestion. Constipation, Biliousness, Sick Headache, Insomnia, "the Blues," and like complaints—

Laxative NERVO-VITAL Tablets

We know you won't buy it, until you know something about it. The best way to get you to know how good it is, is to let you try it. That's what we do. Send Stamp for "Health" booklet, and we will send you a free sample package, that you may try it yourself. We know you will always keep it in the house, if you once try it. What fairer offer could we make? At all Druggists—10 and 25 cents.

Handsome Stick Pin FREE!

If, instead of sending for a sample, you send us 25c we will send you "Health" booklet, a 25c box and a handsome gold stick-pin, set with emerald, ruby or pearl, warranted to be worth double the money. Order by number. This is an extra introductory offer. Only one pin to one person. If unsatisfactory, money returned. Send now while the offer is good.

MODERN REMEDY COMPANY, KEWANEE, ILLINOIS.

[*This company will do exactly as it promises.—Editors.*]

At the Paris Exposition

where, as usual, our exhibit attracted more attention than almost anything else, we thought we were among strangers. So we were, but we were simply surprised at the large number of people from all over Europe who called on us and said they were using **Reliable Incubators and Brooders.** All were satisfied and congratulatory and it made us feel quite at home. There is but one explanation—**merit, merit, merit.** Our **20th Century Poultry Book** makes it all plain. Sent for 10c as long as they last.

Reliable Incubator & Brooder Co., Box B-2 , Quincy, Ill.

Please mention Bee Journal when writing

The Emerson Binder

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

GEORGE W. YORK & CO.,
118 Michigan Street, CHICAGO, ILL

Best on Earth

What? Our **New Champion Winter-Cases.** And to introduce them thruout the United States and Canada we will sell them at a liberal discount until Oct. 15, 1900. Send for quotations. We are also headquarters for the NO-DRIP SHIPPING-CASES.

R. H. SCHMIDT & CO.
Sheboygan, Wisconsin.

Please mention Bee Journal when writing.

BEE-SUPPLIES!

Root's Goods at Root's Prices

POUDER'S HONEY-JARS and everything used by bee-keepers. Prompt Service—low freight rate. Catalog free. **WALTER S. POUDER,**
512 Mass. Ave., INDIANAPOLIS, IND.

Please mention Bee Journal when writing.

DITTMER'S FOUNDATION **Wholesale and Retail**

This foundation is made by an absolutely non-dipping process, thereby producing a perfectly clear and pliable foundation that retains the odor and color of beeswax, and is free from dirt.

Working wax into foundation for cash, a specialty. Write for samples and prices.

A full line of Supplies at the very lowest prices, and in any quantity. Best quality and prompt shipment. Send for large, illustrated catalog.

GUS. DITTMER, Augusta, Wis.

Beeswax Wanted.

Please mention Bee Journal when writing.

STUDENTS RETURNING HOME

For holiday vacations can, upon presentation of proper credentials, obtain tickets via Nickel Plate Road, to all points in Central Passenger Association territory, at a fare and a third for the round trip. Tickets will be sold on day of closing school and on day immediately preceding closing date; good returning until date school reconvenes, but not later than January 8, 1901.

For information as to train service to Ft. Wayne, Cleveland, Fostoria, Erie and other points, call on or address John Y. Calahan, General Agent, 111 Adams St. Chicago Passenger Station, Van Buren St. and Pacific Ave., on the Elevated Loop. (43)

CONVENTION NOTICES.

New York.—Bee-Keepers' Institutes will be held as follows: Batavia, Dec. 12th; Canandaigua, Dec. 13th and 14th; Romulus, Dec. 15th; Auburn, Dec. 17th; and Johnstown, Dec. 18th. Bee-Keepers living in the vicinity of these Institutes are urged to attend and take an active part in the proceedings.

New York.—The 36th semi-annual meeting of the Seneca County Bee-Keepers' Association will be held at the Bevier House, Romulus, N. Y., Saturday, Dec. 15, 1900. W. Z. Hutchinson, editor of the Bee-Keepers' Review, will be present and address the meeting, and also conduct the question-box. Meals will be served at the Bevier House, special rates having been secured. C. B. HOWARD, Sec.

Romulus, N. Y.

Michigan.—The next annual meeting of the Michigan State Bee-Keepers' Association will be held in the Grange Hall, Traverse City, Dec. 26 and 27, 1900, commencing at 2 p.m. This will without doubt be the largest attended meeting in the State for many years. We are to be honored with the presence of Mr. A. I. Root, whose name has become almost a household word, not only thruout the United States, but the world, wherever bees are kept. The program will be in the form of an open parliament, and those topics will be discust that are nearest to bee-keepers' interests. A beautiful and novel badge has been adopted by the officers of the association, and will be sold at cost, 25 cents, and the annual dues will be 25 cents more. This will constitute expenses, except railroad and hotel bills. Reduced rates on all railroads, and the following hotels have made reduced rates to bee-keepers: Park Place Hotel, $1.50; Hotel Whiting, $1.00 to $1.50; Hotel Plankhorn, $1.00; Hotel Shilsom, $1.00; and Columbia Hotel, $1.00 to $1.25. Certainly all should be suited with the above rates to choose from.

Fremont, Mich. GEO. E. HILTON, Pres.

Take Off the Horns.

The quickest, easiest and smoothest way, is possible only by the use of the

CONVEX DISHORNER

and the Bucker Stock Holder. I also have a calf dishorner and all appliances for easy dishorning. West'n trade supplied from Chicago

Illustrated book free.

George Webster, Box123 , Christiana, Pa.

Please mention Bee Journal when writing.

Belgian Hare Guide AND DIRECTORY OF BREEDERS. Price 25c
Inland Poultry Journal Co., Indianapolis, Ind.

IT COST US $4,000 Costs You 15c

We have spent $4,000 on our new book, **"How to Make Money with Poultry and Incubators."** It tells it all. Leading poultry men have written special articles for it. 192 pages, 8x11 in. Illustrated. It's as good as

Cyphers Incubator

—and it's the best. Out hatch any other machine. 16 page circular free. send 15 cts. in stamps for $4,000 book No. 50

SELF SUPPLIED MOISTURE. SELF-REGULATING. SELF-VENTILATING.

Address nearest office. **CYPHERS INCUBATOR CO.**
Chicago, Ill. Wayland, N. Y. Boston, Mass.

SENT ON 30 DAYS TRIAL $5

The **Bantam** hatches every hatchable egg. 50-egg size, $5. Send 4c for Cat. No. 63
Buckeye Incubator Co., Springfield, O.

Please mention Bee Journal when writing.

MISTAKES COST MONEY.

You need make no mistake in buying an incubator if you send for our

NEW PREMIER Incubator.

Give it a thorough trial, when satisfied pay us for it. None better made. Took first premium at World's Fair. Also sole makers of **Simplicity Incubators.** Send 5c. postage for illustrated catalog and "Poultry Helps."

COLUMBIA INCUBATOR CO., 5 Water St., Delaware City, Del.

Please mention Bee Journal when writing.

GINSENG—Book all about it 4c. Tells how to grow this great money maker.
Write to-day. **AMERICAN GINSENG GARDENS, Rose Hill, N. Y.**

38E8t Mention the American Bee Journal.

for surplus honey. I think the most important of these flowers as a honey-yielder is the horsemint. Next to the prairie flowers in importance we have sumac, which blooms in July and August.

I have no desire to dispute Mr. Davies' statement, tho I should not wonder if he has given cotton a better name as a honey-plant than it deserves; but locality may make the difference. H. M. CARR.

Bosque Co., Tex., Dec. 3.

Poor Season—Rainy and Cold.

We have had another poor season; too much rain and cool weather, with just enough honey stored to keep up the swarming-fever. I have extracted about 2000 pounds of Spanish-needle honey, and took off during the summer a few hundred pounds of comb honey, much travel-stained and of mixt quality. I increast from 104 to 144 colonies in two yards.

Many thanks for the fine pictures we are getting on the front page of the Bee Journal, and particularly for the one of G. M. Doolittle, on page 705. I have seen several pictures of our beloved leader in apiculture, but I have seen none with so much "life" in it.

T. H. WAALE.

Clarke Co., Wash., Nov. 19.

Cellar Wintering—Poor Season.

I promist to tell how those 56 colonies of bees wintered which I placed in the cellar Oct. 7, 1899, and removed April 10, 1900. That was a pretty long time for them to be in the cellar, and some will not believe it, but they all came out strong in bees and began to gather pollen the first day.

This has been another poor honey season on account of the dry weather. I took off 500 pounds of comb honey, which is 200 pounds more than a neighbor got who left his bees outdoors until late. Neither of us secured any increase as we were both working for honey.

I leave the supers on all winter, and fill them with dry oats chaff. My bee-cellar is under the kitchen, and has only walls of clay, and after I put them in I do not disturb them until I take them out. I put them in this year Nov. 4th. JOSEPH BETHKE.

Sauk Co., Wis., Nov. 30.

Not an Encouraging Report.

The sugar to feed up the bees in the spring and fall cost more than the honey crop was worth this year. O. E. CLARK.

Calumet Co., Wis., Nov. 26.

Feeding and Wintering Bees.

Bees were gathering nectar and pollen at a great rate Nov. 20th and 21st, altho I do not know from what they were gathering it unless it was from chrysanthemums. All of my bees have plenty of stores to carry them thru the winter, but should they get short I should supply them in the following way:

Take the best sugar I could obtain—3 pounds of sugar to 3 pints of water per colony, per month. Mix this well and add 2 pounds of honey, letting it simmer down to 7 pounds. Put the frame of comb in a tub or something of that sort, then take the mixture when the chill is not more than approaching and hold it up about 2 feet above the comb, and pour it on until the cells are all full, especially near the top. This is done with two frames, and one is put on each side of the brood-nest, after two of the empty ones have been taken away.

Now, should they get short of pollen or become bad in any way, so they could not carry on brood-rearing, I should take a little sweetened water and sprinkle it in the cells and then turn the frame over and shake it out well. Then take some pulverized corn-meal and wheat flour—about two of meal to one of flour—sift it with the hand over the cells I have dampened, till they are not quite full; this done, hit the under side of the frame 3 or 4 times to settle it in the cells to the proper height. Now put the frame on the outside of one of the frames with feed in that has just been given—the warmest side is better. With this method I never have been unable to start brood-rearing in from 5 to 12 days. Of course if one does not want to start brood-rearing leave the hives unprotected and I think that will be all that is necessary; but if that does not do better leave out the pollen entirely and feed the syrup when necessary.

I winter my bees by putting the hives 3 or 4 inches apart, facing the South, and build a stone wall on both sides and at the back, leaving about 3 feet at the back for leaves and 18 inches at the ends. Stuff well with leaves, and pack it down hard between the hives. Put on supers containing chaff cushions. Then lay strips of boards 2 feet by 6 inches over the space between the hives, put brush or boards over the leaves, and then put stones on top of it all. I am well satistied with the results.

ROBERT J. CARY.

Fairfield Co., Conn., Nov. 26.

Having a Nice Honey-Flow.

We are having a nice honey-flow from broom-weed, sage, etc. Bees are in fine condition. Several of my neighbors extracted 15 to 20 pounds per colony. I shall leave mine, as I want an early start in the spring.

Frio Co., Tex., Nov. 25. J. M. McCURDY.

BEE-SUPPLIES.

Muth's Square Glass Honey-Jars.
Send for Catalog.

HONEY AND BEESWAX WANTED.
C. H. W. WEBER,
42Atf 2146 Central Ave., Cincinnati, Ohio.
Please mention Bee Journal when writing.

326 FIRST PREMIUMS
SEND FOR FREE CATALOGUE.
Prairie State Incubator Co.
Homer City, Pa.

47A17t Please mention the Bee Journal.

Extracted Honey For Sale!
Case of two cans White Alfalfa, weighing 122 pounds net, for $8.50, f.o.b.
H. L. WEEMS, Lemoore, Calif.
47A4t Please mention the Bee Journal.

California! If you care to know of its Fruits, Flowers, Climate or Resources, send for a sample copy of California's Favorite Paper—
The Pacific Rural Press,
The leading Horticultural and Agricultural paper of the Pacific Coast. Publisht weekly, handsomely illustrated, $2.00 per annum. Sample copy free.
PACIFIC RURAL PRESS,
330 Market Street, - SAN FRANCISCO, CAL.
Please mention Bee Journal when writing.

DR. PEIRO,
34 Central Music Hall, CHICAGO.

Please mention Bee Journal when writing.

MERIT ALWAYS WINS.

The hard times of the past three or four years have been very destructive to all industrial affairs, and the railroads have had unusual amount of difficulty in making both ends meet. Roads that have, during this trying period, earned dividends while at the same time affording high-class transportation facilities to their patrons, have, indeed, been fortunate. And such an event speaks well for the management of the roads.

The record of the Nickel Plate Road during the recent period of industrial depression, has indeed been remarkable, and it speaks most eloquently of he conservative judgment of the managers. For this road has made great and steady progress in the material improvement of its roadway and appliances, and in perfecting its equipment. The interests of the public have been in no wise neglected; in fact, the success of this road has inured to the benefit of the public, as much, if not more, than to the stockholders. The condition of the road to-day shows this. Great and valuable improvements of a permanent character have been made—in the shape of strengthening the roadway, bridges and other accessories, and procuring new and improved safety appliances; new coaches have been added, elegant Pullman sleeping-cars put on, new and powerful engines have been placed in service, and everything has been done to raise the standard of the road, to perfect its service, and to give it a leading place among the best roads in the country. The result has been obvious. The people have observed the progressive spirit of this road, have given it a liberal patronage, have enjoyed its excellent facilities, and that tells the whole story of a highly successful enterprise.

Among the most noteworthy improvements effected by the Nickel Plate Road is the introduction of a first-class dining-car service, which has won the approval of the best class of patrons. Then the coaches have been illuminated by the brilliant Pintsch gas, heated by steam, and placed in care of a colored porter, so the passengers have had the best that money can afford, at the lowest rates. The thru train service of the Nickel Plate, running in connection with the West Shore and Fitchburg Railroads over the great Hoosac Tunnel Route, between New York, Boston and Chicago—ranks with the best in the country, and has become deservedly popular. Elegant new coaches, and palatial Pullman buffet sleeping-cars run thru without change; the service is unexcelled, the time fast, scenery most fascinating.

Located along the south shore of Lake Erie are many substantial and attractive summer resorts that are yearly growing in popularity, and this class of travel promises a continual increasing source of revenue to the Nickel Plate Road. 48A4t

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Dec. 7. The demand has fallen off very much of late, but prices have not declined to any great degree from those prevailing for the past 60 days, but any pressure to sell would cause a decline. Fancy white comb, 16c; No 1, 15c; amber and travel-stained white, 13@14c; dark and buckwheat, 10@11c. Extracted, white, 7½@8c; amber, 7@7¼c; buckwheat and other dark grades, 6@6¼c. Beeswax, 28c.

R. A. BURNETT & Co.

KANSAS CITY, Dec. 6.—Fancy white comb, 16@16½c; choice, 15c; light amber, 13½@14c; dark, 10c. Extracted, 7½@8c. Beeswax, 22@28c. Receipts very light; demand good.

W. R. CROMWELL PRODUCE CO.,
Successors to C. C. Clemons & Co.

BUFFALO, Dec. 7.—Honey is so high that it curtails the demand very materially. Sales are moderate, and some lots will have to be cut to sell. Fancy comb, 17@18c; choice, 16c; other grades, 10@15c. No extracted, and none wanted. Beeswax quiet at 25@30. BATTERSON & Co.

ALBANY, N.Y., Dec. 6.—Fancy white, 17@18c; No.1, 16@17c; No. 2, 14@15c; mixt, 13@14c; buckwheat, 12½@13½c. Extracted, white, 8@8½c; mixt, 7@7½c.

The honey market is steady with light receipts and good, stiff prices. Extracted, market quiet and but little movement. Will be more demand later on. H. R. WRIGHT.

BOSTON, Dec. 7.—Our market on honey continues strong, with light receipts. Fancy one-pound cartons, 17c; A No. 1, 15@16c; No. 1, 15c; No. 2, 12@13c. Extracted from 7½@8½ cents, according to quality. Beeswax steady at 25@27c.

BLAKE, SCOTT & LEE.

CINCINNATI, Sept. 21.—The demand for fancy comb honey is good and finds ready sale at 16@16½c; No. 1, 15c. The demand for extracted honey at present is slow and offer same by the barrel as follows: White clover, 8½@9c; Southern, 6½@7½c; Florida, 7@8 cents, according to quality. Beeswax, 27c.

The above are MY SELLING PRICES. I do not handle any honey on commission, but pay spot cash on delivery. C. H. W. WEBER.

NEW YORK, Nov. 20.—Good demand continues for all grades of comb honey. We quote: Fancy white, 15@16c; No. 1 white, 14c; No. 2 white 12@13c; amber, 12c; buckwheat, 10@11c. Extracted in fairly good demand at 7½@8c for white, and 7c for amber: off grades and Southern in barrels at from 65@75c per gallon, according to quality. Not much demand for extracted buckwheat as yet. Some little selling at 5½@6c. Beeswax firm at 28 cents.

HILDRETH & SEGELKEN.

DETROIT, Nov. 22—Fancy white comb, 15@16c; No. 1, 13@14c; dark and amber, 10@12c. Extracted, white, 8@8½c; light amber, 7@7½c; dark, 6@6½c. Beeswax, 26@28c.

M. H. HUNT & SON.

SAN FRANCISCO, Nov. 21.—White comb, 13@14 cents; amber, 11½@12½c; dark, 8@9c. Extracted, white, 7½@8c; light amber, 6¾@7¼c; amber, 5½@6½c. Beeswax, 26@28c.

Market is seldom more lightly stockt than at present, and is firm at current rates. Offerings are principally amber grades, choice to select water white honey being a rarity at present, as it has been, in fact, most of the current season. A shipment of 90 cases of honey went forward per steamer to British Columbia.

A HONEY MARKET.—Don't think that your crop is too large or too small to interest us. We have bought and sold five carloads already this season, and want more. We pay spot cash. Address, giving quality, quantity and price,
THOS. C. STANLEY & SON, Fairfield, Ill.
Please mention Bee Journal when writing.

—DO YOU WANT A—
High Grade of Italian Queens
OR A CHOICE STRAWBERRY?
Send for descriptive price-list.
D. J. BLOCHER, Pearl City, Ill.
47A26t Mention the American Bee Journal.

BEES QUEENS
Smokers, Sections,
Comb Foundation
And all Apiarian Supplies
cheap. Send for
FREE Catalogue. E. T. FLANAGAN, Belleville, Ill.
Please mention Bee Journal when writing.

We have a Large Stock on hand and can ship promptly.

SEND US YOUR ORDERS FOR

Hives, Extractors

OR ANYTHING YOU WANT IN THE BEE-KEEPING LINE.

WE MAKE ONLY THE BEST.

Our Falcon Sections and New Process Foundation are ahead of everything, and cost no more than other makes. New Catalog and copy of THE AMERICAN BEE-KEEPER free. Address,

THE W. T. FALCONER MFG. CO.,
JAMESTOWN, N. Y.

☞ W. M. GERRISH, East Notingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.

PATENT WIRED COMB FOUNDATION

Has no Sag in Brood-Frames.

Thin Flat-Bottom Foundation

Has no Fishbone in the Surplus Honey.

Being the cleanest is usually workt the quickest of any foundation made.

J. A. VAN DEUSEN,
Sole Manufacturer,
Sprout Brook, Montgomery Co., N.Y.

Please mention Bee Journal when writing

SWEET CLOVER

And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white)	60c	$1.00	$2.25	$4.00
Sweet Clover (yellow)	$1.50	2.80	6.25	12.00
Crimson Clover	70c	1.20	2.75	5.00
Alsike Clover	90c	1.70	3.75	7.00
White Clover	90c	1.70	3.75	6.50
Alfalfa Clover	80c	1.40	3.25	6.00

Prices subject to market changes.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

GEORGE W. YORK & CO.
118 Michigan Street, - CHICAGO, ILL.

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BEE-BOOK

That covers the whole Apicultural Field more completely than any other publisht, send $1.25 to Prof. A. J. Cook, Claremont, Calif., for his

Bee-Keepers' Guide.

Liberal Discounts to the Trade.

FALL SPECIALTIES

Shipping-Cases, Root's No-Drip; Five-Gallon Cans for extracted honey, Danz. Cartons for comb honey. Cash or trade for beeswax. Send for catalog. M. H. HUNT & SON, Bell Branch, Mich.

Please mention Bee Journal when writing.

REDUCED RATES FOR CHRISTMAS AND NEW YEAR HOLIDAYS.

The Nickel Plate Road will sell tickets Dec. 22 to 25, inclusive, Dec. 31, 1900, and Jan. 1, 1901, at rate of a fare and a third for the round trip, to any point located in Central Passenger Association territory, good returning to and including Jan. 2, 1901. Vestibuled sleeping-cars. Individual club meals, ranging in price from 35 cents to $1.00, served in dining-cars. Address, John Y. Calahan, General Agent, 111 Adams St., Chicago, for particulars. Depot, Van Buren St. and Pacific Ave., on the Elevated Loop. (42)

23rd Year Dadant's Foundation. 23rd Year

We guarantee satisfaction. ❊❊

What more can anybody do? BEAUTY, PURITY, FIRMNESS, No SAGGING, No LOSS.
PATENT WEED-PROCESS SHEETING.

Why does it sell so well? ❊❊

Because it has always given better satisfaction than any other.
Because in 23 years there have not been any complaints, but thousands of compliments.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

BEE-KEEPERS' SUPPLIES OF ALL KINDS.

Langstroth on the Honey-Bee, Revised

The Classic in Bee-Culture—Price, $1.25, by Mail.

Beeswax Wanted ❊ ❊ ❊

AT ALL TIMES.

CHAS. DADANT & SON,
Hamilton, Hancock Co., Ill.

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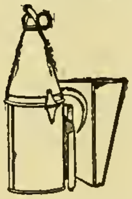
MADE TO ORDER.

Bingham Brass Smokers,



made of sheet-brass which does not rust or burn but should last a life-time. You need one, but they cost 25 cents more than tin of the same size. The little pen cut shows our brass hinge put on the three larger sizes.

No wonder Bingham's 4-inch Smoke Engine goes without puffing and does not

DROP INKY DROPS.

BINGHAM
BeeSmoker

The perforated steel fire-grate has 381 holes to air the fuel and support the fire.

Prices: Heavy Tin Smoke Engine, four-inch Stove, per mail, $1.50; 3½-inch, $1.10; three-inch, $1.00; 2½-inch, 90 cents; two-inch, 65 cents.

BINGHAM SMOKERS

are the original, and have all the improvements, and have been the STANDARD OF EXCELLENCE for 22 years. Address, **T. F. BINGHAM, FARWELL, MICH.**

Please mention Bee Journal when writing.

One-Pound Square Honey-Jars,

$5.00 a gross; 5 gross, $4.80 per gross.

WINTER-CASES, 10 for $7.00. CARTONS—the best made.
Catalog of Apiarian Supplies and Queens free.

Apiaries—Glen Cove, L.I. **I. J. STRINGHAM, 105 Park Place, New York, N. Y.**

Please mention Bee Journal when writing.

Four Celluloid Queen-Buttons Free

AS A PREMIUM

OUR TOIL DOTH SWEETEN OTHERS

For sending us ONE NEW SUBSCRIBER to the American Bee Journal for three months with 30 cents, we will mail you FOUR of these pretty buttons for wearing on the coat-lapel. (You can wear one and give the others to the children.) The queen has a golden tinge.

OUR TOIL DOTH SWEETEN OTHERS

This offer is made only to our present regular subscribers.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate, it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

Prices of Buttons alone, postpaid: One button, 8 cts.; 2 buttons, 6 cts. each; 5 or more, 5 cts. each. (Stamps taken.) Address,

GEORGE W. YORK & CO., 118 Michigan St., CHICAGO.

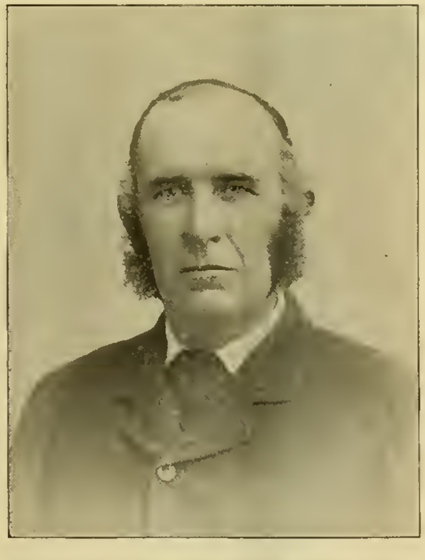
AMERICAN BEE JOURNAL

GEORGE W. YORK, Editor.

CHICAGO, ILL., DECEMBER 20, 1900.

FORTIETH YEAR. No. 51.

WEEKLY



WM. McEVOY,
Foul Brood Inspector of Ontario, Canada.

F.B.WHITE CO. CHI.

THE AMERICAN BEE JOURNAL.

PUBLISHT WEEKLY BY

GEORGE W. YORK & Co.

118 Michigan St., Chicago, Ill.

Entered at the Post-Office at Chicago as Second-Class Mail-Matter.

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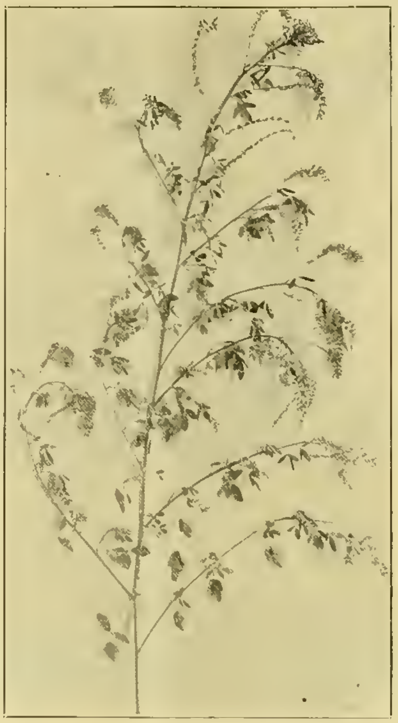

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AMERICAN BEE JOURNAL

ESTABLISHT IN 1861

THE OLDEST BEE-PAPER IN AMERICA

40th YEAR. CHICAGO, ILL., DECEMBER 20, 1900. No. 51.

❊ Editorial. ❊

The Chicago Convention Report has been unavoidably delayed somewhere, so that we are unable to continue it this week. We trust that such a break will not happen again; but perhaps in view of the excellent matter in its place this week no one will complain on account of its omission for one issue. We hope it will not occur again, as we desire to complete it as soon as possible, as we have other interesting and helpful matter waiting its turn.

◆

Shipping Comb Honey.—There is no one who knows better than the dealer in honey how it should be prepared for shipment. He is the man that is at the other end of the line from the producer or shipper, and is the only one who can report as to the condition of the honey after having traveled on the cars from starting-point to destination. He *ought* to be able to give some good advice about shipping honey, especially as he receives many shipments from almost as many different shippers, thus becoming familiar with the various methods of preparing it before starting it off to market.

Well, we have been doing something in the line of handling honey for several years, and during that time we have been able to collect some very valuable experience. But the trouble we find is, to get some bee-keepers to learn to take advice that is wholly for their own good. For instance, how often we have gone into the details, in these columns about preparing comb honey for shipment, and yet scarcely a season passes but what we have a repetition of an experience with broken-down comb honey that is anything but agreeable to us, and far from profitable to the producer.

Quite recently we received a shipment of about 50 cases of amber comb honey from an old bee-keeper, some 500 miles from Chicago. It arrived here in such a smasht-up condition that our honey-man had to spend two full days in going thru the lot, cleaning it up, and putting all the broken-down sections of honey into cases by themselves. When he finisht the miserable, sticky job, there were just 13 cases of 20 sections each of the wholly broken down comb honey.

And there needn't have been any broken-down comb if the shipper had prepared it properly before loading it on the cars.

Let us tell how it was packt: The 20-section cases were put into heavy boxes holding six cases each, but there was practically no extra space to pack in straw. In some of the boxes the cases fitted so tight that it was difficult to get them out without first taking the box to pieces. Of course this was all wrong. There should have been a space of three or four inches all around the six cases (except on top) in which to put straw to act as a cushion. We also think it well, if using a large box instead of a crate (tho the crate is preferable), to leave one side rather open, using slats there instead of making it solid. Then the freight-handlers can see that it is comb honey, and will be more careful.

Of course, on top of each box or crate should be plainly markt—"COMB HONEY—HANDLE WITH CARE."

Another thing: The sections in the above lot of honey were crowded so tight into the shipping-cases that we actually had to pry the rear side of each case off before being able to take out a section. This is all wrong. The cases should have at least three-fourths inch space at the back, for a one-fourth inch thick board to stand on edge next to the sections of honey, and then newspaper wadded up and crowded in between the thin board and the back of the case. This serves as a sort of cushion, and will prevent many a comb from being broken down.

The boxes in this particular shipment had handles on them for the freight men to carry them by. That part was all right, but nearly everything else was wrong.

We have never received a shipment of comb honey in bad condition when it was properly packt before shipping. It is absolutely useless to expect to be able to ship comb honey safely when not prepared as it should be. To do otherwise is simply to be almost certain of loss. And the miserable, leaky, dauby mess that the receiver has to clean up is anything but pleasant, especially when he knows that it would have been wholly unnecessary had the honey been put up right before putting it on the cars.

We hope this story will serve as a warning to all who read it, to pack their comb honey as it should be when shipping to a distant market.

◆

Bees and Fruit Again.—A certain judge in Adams Co., Ill., sent the following letter to Mr. J. Q. Smith, president of the Illinois State Bee-Keepers' Association, who, upon receiving it, referred it to us for reply and publishing, if we so desired to use it in these columns:

> J. Q. SMITH—
>
> *Dear Sir:*—A client of mine seeks damages because his neighbor's bees, from about 400 hives, clustered about his ripe grapes and peaches, and spoiled the crops of his vineyard and peach orchard. The bloom and flowers were not as thick in woods and bottoms as usual this year.
>
> Do bees usually do such damages to ripe grapes and peaches, seeking sweets, whether bloom is plentiful or not? The habits and customs of bees would answer this, and you may be able to suggest an answer.
>
> Would bees do such damage usually, so the owner would ordinarily be supposed to have notice of such propensity?
>
> To put the question fairly as to the habits and customs of bees, would solve the question in part. What books or papers treat of that point?

Upon receiving the above, we immediately requested General Manager Secor, of the National Bee-Keepers' Association, to mail the judge all the literature he had bearing on the subject. We have no doubt nothing further will be heard from the threatened prosecution. A conscientious attorney, after informing himself on the matter, would do all he could to prevent litigation of the kind indicated, for the intending plaintiff could well afford to pay a fat fee for being kept out of court, rather than certainly to end with a lost suit, and then to have all the costs to settle, besides his attorney's fee.

It would be well for our readers to bear in mind that all members of the National Bee-Keepers' Association have free access to any aid that it is able to give. If you are not a member, you can't do a better thing than to send your annual dues ($1.00) to General Manager Eugene Secor, Forest City, Iowa, and thus put yourself in line with such help as you might require some day; and if not for yourself, you will be aiding your fellow bee-keepers in maintaining their rights against any unjust aggressions.

If more convenient for you, send the dollar to us, and we will see that Mr. Secor gets it. Then he will mail you a membership receipt.

◆

Growing Clover.—Three prize articles on this subject appear in Gleanings in Bee-Culture, alsike getting the lion's share of attention, red clover seeming to come in only incidentally. The writers are from different States—Wm. Robinson from Wisconsin, Wm. W. Case from New Jersey, and Harry L. Smith from Maine. The first article is of such importance that it is given elsewhere entire. What is true for Wisconsin is probably true for a large area of territory visited by this journal.

According to Mr. Case, it is easier to get a catch of alsike than of red, and it does not kill out so easily in winter. An objection is that alsike gives no second crop unless cut before thru blossoming, which spoils the honey crop. Mr. Case says:

> "At the usual time of sowing clover in the spring on wheat and rye, mix red and alsike clover seed in the proportion of two pounds of red to one of alsike, and apply with tim-

othy. two pounds. at rate of not less than six quarts to the acre, and as much more as experience with your own peculiar soils shows will make a heavy stand. Should the first trial prove a failure, if necessary, furnish the farmers seed at half cost for second trial, and eventually you will get an alsike convert who would not do without it even if the seed cost $30 per bushel. In the following hay crop, without interfering with the red crop in the least, it will, on the average, add 40 percent to the yield of hay, while the second crop of red will follow as tho no alsike had been grown. I have frequently seen it grow to a height of 20 to 24 inches the first season after removal of the wheat or rye.

"Fully three-fourths of the clover sown thruout this section of country contains its proper share of alsike; and as practically all the red clover froze to death last winter, and scarcely none of the alsike, next spring will see a far higher percent of alsike sown than in the past."

"The common practice in this section," says Mr. Smith, "has been to use about one-third red clover in seeding to grass; but experiments upon our farm have proved to us that we get more hay, and a much greater feeding value, by using more clover; about one-third red and one-third alsike clovers, the rest timothy and red top.

"The first year we get two crops of clover in which but little else will show; but during the following winter, fully half of the clover plants die, and the timothy and red-top take possession and feed upon the decaying roots, giving us a good crop of hay for two or three years. On our heavy clay soils we sow enough alsike to take the place of the red clover, as the latter will rarely make a stand. On moist fertile soil we can produce alsike three feet tall, and it will stool out so thick that it will form a perfect tangle; and how the bees revel in it! It seems as tho all the bees in the neighborhood were there. If it is cut when it first begins to bloom we may expect a second crop, but not otherwise, for alsike is a biennial; and if it is not cut before it comes into full bloom the most of the plants will die. If the summer is moist, red clover will produce a second crop, even if the first is not cut until the heads begin to turn brown. By seeding with both alsike and red clovers, and not cutting the first crop until it is in the height of bloom, we get a larger first crop; then the red clover will take possession and give us as large a second crop as tho it had been used alone in seeding. Clover likes a mellow soil, so we plan to have it follow some crop which leaves the ground light and friable."

A. I. Root adds in a foot-note: "Clover grown as we grow it, solely for improving the soil, is all right for honey, for we seldom plow it under until it is in full bloom, and some of the heads begin to turn brown. The largest crop of buckwheat we ever grew was where we turned under mammoth clover so late it was already full of seed. A neighbor told us the clover seed on the land was worth more than we could get for our buckwheat; but he was mistaken; and from this experiment I am inclined to think that clover is worth more to plow under when it contains some seed nearly or quite mature than at any other period."

◆

Honey as a Daily Food. Dr. C. C. Miller, in the National Stockman and Farmer of recent date, had this to say about the daily use of honey in the families of farmers:

Some farmers are in the habit of selling off all the best of anything raised, letting the family worry along with the leavings. It is pleasant to believe that in many cases honey forms an exception; that the farmer with two or three colonies of bees does not think of selling any of the honey, but leaves it all in the hands of the good wife, to do with when and how she will. Very wise indeed is such a farmer. Indeed, if he is wise enough, he will have honey on the table daily, even tho he should be obliged to buy it.

It is for the health to use honey. Many a poor mortal is to-day living a life of lingering torture or cruel self-denial, to whom the doctors have forbidden the use of all sugar and all foods abounding in starch. And the trouble came about from over-indulgence in sugar. This nation has a wonderfully sweet tooth. Do you know that the average man, woman and child of the American nation consumes more than a pound of sugar every week of life? Some more than that, some less; more than a pound a week is the average. Before the sugar can be workt into flesh and blood, it must be changed from cane-sugar to grape-sugar. When too much of this work is thrown upon the stomach, there comes trouble—sour stomach, headache, and all the varied ills that come from bad digestion. The stomach turns over the job to the kidneys, and when the kidneys have more than they can do, having no one else to turn to for help, they break down with disease.

The use of honey satisfies this craving for sweet without the dangers that attend the use of sugar. The sugar in honey is already grape-sugar, all ready for assimilation. Give a child the choice between sugar and honey, and see which it will take. For too many children bread and honey is a treat, a luxury, instead of being an article of daily food. The old man or woman of 80, as well the child, finds the daily use of honey both pleasant and healthful.

The average family of five persons would be considered as using a good deal of honey to use 50 pounds in a year. Many do not use 10. But the average of sugar for such a family is about 300 pounds a year. If half of that, or even 100 pounds, were replaced by honey, it would be for the betterment of the health of the family.

The foregoing advice will apply to bee-keepers as well. Why shouldn't they use more of their own honey and buy less sugar? We have honey on our table three times a day, and the meal would seem hardly complete without it.

A good way to use extracted honey is to put a good-sized tablespoonful in a little sauce-dish for each one at the table. This will usually all be eaten. It is a much better way than to pass a dishful of it and let each one take what he wants and put it on his plate, to run all over it and daub the other things on the plate with its sticky sweetness. Try the side-dish plan, putting only enough into the dish so that it will be used at that particular meal.

Bee-keepers should set a good example to the world in the line of eating honey—"take their own medicine," or advice, as it were.

Weekly Budget

Editor W. Z. Hutchinson, in the last issue of his Bee-Keepers' Review, has these two very complimentary paragraphs:

The American Bee Journal receives a very kind but well-deserved notice from Gleanings. Among other things, Mr. Root fears that Bro. York does not get money enough for his journal when he sells 52 numbers for only $1.00. This is what I have often thought; and only a first-class business-man, like Bro. York, would ever have kept the American Bee Journal afloat at that price, and made it what it is.

The Chicago convention report of the National Association meeting held last August in that city, as now being publisht in the American Bee Journal, is the best, most accurate, and fullest report ever publisht of any convention held by this body. It shows that it pays to have an efficient stenographer.

We can not conceive of anything that we have done to merit such kind words as have recently appeared in some of the bee-papers, notably Gleanings and the Review. We certainly appreciate them very much, and only hope that there never may anything occur that will cause our good friends to regret having written the commendatory words.

We have been devoutly thankful for the kindly feelings that have existed for so many years between the editors of the various leading bee-papers. It was not always so. In other days, long ago, there was more or less of strife among the bee-brethren, not only touching those who were guiding and guarding the helms of the bee-papers, but among the rank and file of bee-keepers themselves.

Let us all rejoice in this better day that has dawned, and trust that the present era of good-will and good-nature may be as lasting as it is desirable and pleasant.

◆

Mr. Wm. McEvoy is perhaps the best known bee-keeper in Canada to-day. His excellent report for 1900 as foul-brood inspector for the Province of Ontario appears on another page. Mr. McEvoy has made a success of handling that dread disease, and seems to have done so in a manner that all can approve. This is saying a good deal, when we remember that he has all kinds of people to deal with. We have met Mr. McEvoy, and also his good wife, and it would be rather difficult to say which is the better "man" of the two. However, we might say of them as did the Irishman when he wisht to compare a couple of men, and do it gallantly. He said: "One is as good as the other, if not a little better!"

◆

Mr. Wm. F. Ware, of Cumberland Co., N. J., gives his estimate of the American Bee Journal as follows:

"If you can tell me how any one keeping only a few bees, and can get along without taking the American Bee Journal, or some other paper just as good, and will make me believe it, I will send you at once another dollar for another year's subscription. You can't do it, you know.

"I hope to have a good season next year with my 20 colonies of bees."

◆

Editors Root and Hutchinson have been enjoying the attendance upon several bee-keepers' conventions in the East, particularly the recent Ontario convention, of which Mr. Wm. McEvoy, the bustling and efficient foul brood inspector for that Province, writes us as follows:

"We had the best convention ever held in the Province of Ontario. Mr. Holmes read the best paper on queens ever written, and of immense value. Prof. Fletcher, of Ottawa, prepared himself, and with charts and a lecture he astonisht every one. Mr. J. B. Hall moved to have it publisht in pamphlet form for the benefit of both bee-keepers and fruit-growers. It was promptly carried. Our conventions are getting better every year. Woodstock is the next place of meeting."

It is too bad that we are not able at this season of the year to get away to meet the bee-keepers in conventions, but from Dec. 1st to Feb. 1st, we are usually kept very busy in the office, and feel that we simply must be here, not allowing anything but severe sickness or death to keep us away for even a day.

But we are glad that our brother editors can attend and enjoy the conventions. Besides, any one of them is more helpful to a meeting than we possibly could be. So it is all right in that way; but we feel we are missing a good deal of profit and pleasure by being prevented from attending. Still, we will try to be satisfied to remain at home, and look after the weekly Bee Journal, which requires more constant attention than any other bee-paper publisht in America. Only by attending strictly to business, and letting nothing interfere, are we able to keep it "afloat at the price," as Mr. Hutchinson has well said.

Contributed Articles.

Review of Thos. W. Cowan's Book—The Honey-Bee.

BY PROF. A. J. COOK.

IT seems almost unnecessary to criticise so accurate and admirable a work as "The Honey-Bee," by Thos. W. Cowan. However, a small horse is quickly curried.

On page 1 it is stated that the honey-bee belongs to the sub-kingdom Annulosa. There has never been very good authority for Annulosa as a Phylum. At present all our best authorities place insects in the Branch or Phylum, Arthropoda.

On page 2 I should prefer Ichneumon Flies to Ichneumons, both for euphony and symmetry. On the same page I notice Mr. Cowan still uses the old word, "mellifica" for the honey-bee. I think I prefer this to "mellifera," altho the latter would take precedence if we follow the latest rules of priority. In a popular work, it is always better, I think, to use names that have generally been used in our literature.

It is the usage at present, not to capitalize specific names, even tho they may be derived from proper nouns. Thus, Bombus virginica or Xylocopa californica should be written as here shown.

On page 4, we have "workers *who* represent." Of course this was a case of faulty proof-reading.

Is it true, as stated on page 5, that the worker-bees are unloaded of their burden at the entrance to the hive? From the middle of page 7, we learn that the same bee that gathers pollen, not only pushes it into the cell, but packs it with her head, and then goes to other cells to empty her honey-stomach. Does the same bee that gathers the pollen pack it? And do bees generally gather pollen and honey at the same time? They certainly do sometimes, but I think not usually.

On page 10, it is stated that the egg contains a vital germ. The seed contains a germ, but never the egg. The egg is simply a cell and usually receives another cell which is incorporated into its substance before development commences. While it would be perfectly proper to say that a seed contains a germ, I do not think it would be correct to speak in like way of an egg.

On page 12, pupa, chrysalis and nymph are all given as synonyms. It were better to confine chrysalis to the pupa of butterflies, while entomologists now use nymphs for both the larva and pupa of such insects as pass thru incomplete metamorphoses like the locust.

On page 13, 15 days is given as the term of a queen's development from the time the egg is laid till the queen emerges. I believe the usual 16 days is a more correct average. Fifteen and even seventeen days may occasionally mark this time.

On page 18 we read "clypeus or nose." Neither form, position, nor function would warrant the use of nose in this place.

On page 20, we read that the compound eyes of the imago are developt from the simple eyes of the larva. This is certainly not always the case. Is it ever true?

On page 22, pharynx, gullet and mouth mean the same. I supposed, as with us, that pharynx refers to the enlargement just back of the mouth, and that gullet was synonymous with œsophagus.

On page 30 we read, "Bees are also able to distend the infolded membrane on the under side of the tongue, and expose the rod, probably for the purpose of cleaning it." I have demonstrated by using colored sweets that this unfolding is sometimes for the purpose of lapping thick honey. I am inclined to think this is its true function.

The naming of the wing, on page 39, is misleading. The front long vein is called the costal, and the one towards the tip from this, the marginal. The large cell back of the costal is called the median, while all those that touch the marginal are called sub-marginal, sub-costal or cubital.

On page 40 it is stated that the hooklets of the posterior wing are on the outer margin. I should say they are on the inner two-thirds of the front margin, as shown in the beautiful figure on page 39.

At the bottom of page 62, we find, "the others are termed ganglions." All the masses of gray cells are termed ganglia. I prefer the Latin plural which is certainly the more euphonious.

On page 64, certain nerve fibres are spoken of as reflex. The word reflex better refers to a sensation. It is probable that every nerve is more or less the track of reflex nervous actions.

Mr. Cowan's statistics on page 70, regarding the size of the brain of different insects, are very interesting. It is stated that the peduculated bodies of the brain form one-fifth part of the volume of the brain, and 1-940 of the whole body, while in the ant, they are nearly half the volume of the brain and 1-286 part of the whole body. Yet in the next paragraph it is stated that the whole brain of the worker-bee is 1-174 of the body, while in the ant it is 1-286 of the body. Of course there is some mistake here. When we read that the brain of the water-beetle is only 1-4200 part of the body, our respect for the bee's position in the insect world is augmented. The first figures would seem to put the ant at the head of the insect world. It has seemed to me that it rightly belongs there, tho we must say that the bee is a close second.

I think the wrong impression is given on page 79, as I think the removal of the sting always proves fatal, tho death may not occur for some days. This opinion was the result of numerous careful experiments.

The fact as given on page 82 that the poison of the queen is very different from the poisonous contents of the sac of the worker, is very interesting.

That Mr. Cowan is up with the latest is shown by his explanation of vision as shown on page 104.

Mr. Cowan says on page 105, last line, that white-eyed drones are blind. Are we sure of this? Albino people, it is true, have defective vision, but can see. I believe the same is true of white-eyed bees.

Digestion is not to separate the nutrient food from the other ingesta, as we read on page 106. Absorption or osmosis performs the separation. Nor is digestion necessarily to make the food liquid, tho this is generally the case. Some liquids, like blood albumen, are yet non-osmotic, and so must be digested. I think the best definition for digestion is the process by which the food is rendered osmotic.

On page 107, we are told that the food is digested by the action of the gastric juices secreted by cells in the chyle stomach. I believe that the pollen is mostly digested by the secretion from the lower head-glands, while the nectar is digested by secretion from the upper head and thoracic glands. The stomach-cells may furnish some digestive ferment tho I doubt if they do more than to keep the stomach moist and absorb the digested food. Near the bottom of the page, the action of the stomach mouth is referred to as voluntary. I believe all the muscles of the alimentary canal are involuntary.

I do not like the use of the word "chyme." Its use is almost discontinued in human physiology, and better be everywhere. I suppose we shall continue to use the word chyle for the digested food of the true stomach, tho I do not like it. It is now used in human physiology to designate the digested fat, and to give it so different a meaning in discussing bees is confusing.

I was glad to note, as stated on page 112, that Mr. Cowan has actually seen the queen void her fæces. I had supposed that she utilized all her aliment, and that there were no excretæ. Mr. Cowan saw the workers sucking this up.

On page 117, it is stated that the upper head-glands and thoracic glands—Mr. Cowan uses singular number—are larger in the queen and absent in the drone. It is strange that in the modification of the queen, these glands have not diminisht in size or disappeared. If their secretion, as I believe, is to digest the nectar, they would seem hardly more necessary for the queen than the drone. Possibly the food must be more thoroly digested in winter, and so as the queen lives thru the winter, she requires these glands. It is an interesting fact, as given on page 124, that the drones die in three days if not fed by the workers, and the fact that this food is withheld by the workers accounts for the quiet taking off of the drone at the last.

On page 135, the ovaries are called glands. If this be correct, then the eggs are a secretion. I would call neither the ovaries nor testes, glands.

It is stated on page 136 that eggs are not found in the ovaries. As the queen emerges from the pupa stage, I think this is an error. As with all higher animals, all the eggs are present at birth, but are not fully developt until just previous to deposition.

On page 141, Berlepsch is quoted as never having known a queen to be impregnated earlier than the third day. Dzierzon once knew a queen to be impregnated at 47 days. Is Mr. Cowan correct on the same page in the following? "Generally the wedding flight takes place between twelve and four o'clock, seldom later and *yet more seldom earlier.*" Mr. Cowan says the time the queen is out varies from *one minute* to 45 minutes.

On page 147, Mr. Cowan argues in favor of telegony. I do not believe that the drone from a pure mother will ever show taint, however mated. I believe if there is a show of taint, the queen was not pure. My very extensive experiments in this matter seem conclusive.

Mr. Cowan states on page 157, that while both drones and workers are fed different food during the close of the feeding period of their larval state, the queen-larva has the same food thruout. After this partial weaning, digested pollen and honey are given the workers, and undigested pollen the drones. I wonder if this has been demonstrated.

The quotation on page 171, from H. Holz, that "the fat cells are connected with the membrane by tubes thru which the liquid wax flows to the membrane, and passes thru when the temperature is at 95 to 98 degrees Fahr."—have others seen the fat cells or the tubes? It is stated on the same page that wax-secretion is voluntary. I do not believe this at all. As shown in my "Bee-Keepers' Guide," it probably results from much eating and great quiet.

It is probably correct, as stated on page 173, that the presence of both pollen and honey in the food will increase the amount of wax-secretion. We, our cows, all animals, work better when they have normal food.

Mr. Cowan's explanation of the varying form and size of cells—pages 179-187—is intensely interesting, and is the result of most valuable research. His descriptions, as well as his photographs, show that cells may be of almost any form and of very varying size. The old idea of exactness and perfection goes for nought. Dr. Planta is quoted on page 189 as authority for the statement that the coloring of the wax when it is pale yellow is owing to the pollen in the food. This is interesting, if true.

I feel as tho an apology is due for any criticism of so excellent a work. I do it in no spirit of dogmatism, but only to call attention to points which I think will warrant investigation. The book is rightly regarded as authoritative in Europe, and is certainly one of our very best works.

Los Angeles Co., Calif.

Report for 1900 of the Ontario Apiary Inspector.

BY WM. M'EVOY.

DURING 1900 I visited bee-yards in the counties of Lincoln, Wentworth, Brant, Huron, Perth, Waterloo, Wellington, Halton, York, Ontario, Simcoe, Lanark and Russell.

I inspected 100 apiaries and found foul brood in 33 of them, and dead brood of other kinds in many others which had been mistaken for foul brood. The first thing I did when I entered a locality was to pick out the best bee-keeper in it, and get him to take me from place to place so that he could see how I managed the business, and, if required, would make a valuable witness. I have done this for the last ten years, and kept up a correspondence with the most of them, and by this means I always knew pretty well how all were getting on at the curing.

At this work I burned a good deal of midnight oil, and sometimes I wrote all night and part of the next morning. Sometimes death and sickness delayed the curing, and in all places where I found this to be the case, I went and did the curing myself.

The following is a list of part of the men that went the rounds with me during the last ten years: Messrs. F. A. Gemmill, J. B. Hall, C. W. Post, Wm. Wells, Charles Mitchell, Martin Emigh, D. W. Heise, Abner Picket, R. L. Patterson, James Armstrong, W. A. Chrysler, J. McPherson, E. Donnelly, Samuel Wood, J. K. Darling, Peter Byer, Jas. Nolan, John Fixter, of the Ottawa Experimental Farm, John Calvert, Alexander Taylor, A. E. Hoshal, Moses Vernon, Wm. Holden, A. Boomer, J. Ward, and Henry Couse.

I have here furnisht a list of part of the men that I pickt out "to pad the road with me," and taking them as a whole, for good bee-keepers, they will rank among the best, if not *the* best, in the world, and I will leave it to them to say if I did not manage the whole business justly, very fairly, and successfully, all along the line.

Since I was first appointed inspector, I have had thousands of diseased colonies cured of foul brood, and very many apiaries that were once in a bad state with foul brood, have not only been cured, but have given some of the largest average yields of honey of any ever taken in the Province of Ontario. One of the treated apiaries gave an average of 200 pounds of clover and basswood honey per colony, and 50 percent increase in bees, and had plenty of clover and basswood honey left in the hives for wintering the bees. This yield was taken in a locality where no buckwheat was grown.

Every bee-keeper I visited during the past season treated me in the most courteous and generous way, and to them and the kind friends I met everywhere, who took me from place to place, I return my most heartfelt thanks.

I also thank the editors of all the bee-journals for the valuable help they gave me.

Woodburn, Ont., Dec. 3, 1900.

No. 8.—Interesting Notes on European Travel.

BY C. P. DADANT.

THE crowning pleasure of our stay at Nyon was a bee-keepers' banquet, given in our honor by our kind host, Mr. Bertrand, the day previous to our departure. He had invited a number of leading bee-keepers, members of their association, and the invitation was not only for the banquet, but for a full day at his chalet. Two or three days before, he told me, with a smile, that every one of the invitations had been accepted "with the greatest enthusiasm." I believe he meant to credit this enthusiasm to my presence at Nyon, but it was quite evident that if any of these friends had ever had the opportunity of visiting at the home of Mr. Bertrand, there was no need of any other incentive than an invitation from him to create enthusiasm.

They began coming in about nine o'clock, and by eleven quite a nice little party had assembled on the veranda, and the usual bee-talk was going on. You all know how this goes, and European bee-keepers are just like us. They like to talk of their crops, of what they do, and above all, they love to talk of far-off America's bee-keeping. So I had my hands full. But we had no crop to report this year, while our Swiss bee-keepers had a very good honey season, and one or two of them had magnificent returns.

In practical bee-culture, I found one difference of opinion with us, and that is on the usefulness of the Italian bee. Swiss bee-keepers do not seem to consider this bee as superior to the common bee. Our American bee-keepers are almost unanimous in recognizing that the Italian bees are more active, go out earlier, work later in the day, and are more economical than the blacks. Personally, I have often noticed that, in bad seasons, when strong colonies of common bees have not enough to winter, the even moderately strong Italian colonies have a sufficient amount for their needs, tho there are exceptional seasons when none have enough. But it would seem that they put their honey in more compact shape, and crowd their breeding apartment more, and some people even say they do this too much in good seasons. At any rate, we find them decidedly superior. But our Swiss friends, honey-producers or queen-breeders, and all practical men, were in unison in the assertion that they found very little difference in results between the common bee and the Italian. The same thing was said to me later by two or three French apiarists. They all agree on their greater gentleness, their steadiness on the combs when these are lifted out of the hive, and it was the universal verdict that, as far as handling was concerned they were decidedly more desirable. In this we are all of the same opinion.

Much was said about adulteration, not only of honey, but of beeswax. The adulteration of this last-named substance is so common in Europe, that most Swiss bee-keepers prefer to make their own beeswax into foundation themselves, on what is called the Rietsche press, than run the risk of buying goods that break down in the hive at very ordinary temperatures. Yet the foundation made on the Rietsche press is very inferior in workmanship, and would not be accepted on this side of the ocean. But they produce mainly extracted honey, and the thickness of the central rib in the combs does not cause them any worry. The Rietsche press is made of a pair of copper plates hinged together, and bearing the imprint of the honey-cells, into which the hot beeswax is poured and prest. It is a German invention, and its manufacturer claims a sale of over 16,000 presses since its introduction. The price is low, from $6 to $8 each.

I was highly pleased to see that, in spite of all that has been said in Europe, concerning America, and its adulterated goods, we are certainly not any worse off, in this respect, than the countries of Europe, with all their laws and strict police. There was no end of complaints about adulterated honey being sold on the markets in competition with the pure article, but what seemed most strange to me, was the assertion that in many instances adulterated honey is sold under its true name, and seems to please the consumer better than the pure article.

At one o'clock we sat down to a meal that would bring a smile of content to the face of the most fastidious epicure. Swiss cooks are as good as French cooks, and like them they deserve to be rankt among the masters of the art. Not only was the palate pleased, the eye was feasted also by the sight of an enormous pike, roasted whole, a profusion of flowers, a boquet in front of each plate, and in the center of the table an almond cake in the shape of a movable-frame hive. In addition to this specimen of our pursuit. the honey crop was represented by fine samples brought from Bulgaria, two days before, by one of Mr. Bertrand's pupils, Mr. Pantcheff. These samples, both comb and extracted honey, were probably gathered from alfalfa or esparcet.

But all good things come to an end, and after many a toast, our bee-friends left us one after another, and wisht us a safe and pleasant journey in our long return voyage toward the setting sun. Hearty invitations were extended to us to visit them, by several of the guests, in case we came again at a later day. I hope I may have occasion to accept.

The following afternoon we, in our turn, took leave of our host and boarded the thru train for Paris. Thus ended one of the pleasantest visits of our voyage.

On this train, we had another illustration of the politeness and attention of Swiss railroad men. Our Swiss railroad passes which were about to expire, took us as far as the frontier, and from there we expected to take a ticket for Paris. When the conductor came to us, I enquired about this matter, at the same time handing our passes to him. "Oh," said he "this coach goes on to Paris, and when we get to Vallorbe, I will get your tickets for you, so you will not need to get down." And so he did; but we did have to get down, just the same, a little farther, because of our trunk, which had to be examined at the custom house, in passing the frontier. Whatever may be said in favor of tariffs, custom houses are a curse to the traveler, and just as much so in our own land as between the countries of Europe.

Growing Alsike Clover—First Prize Article.

BY WILLIAM ROBINSON.

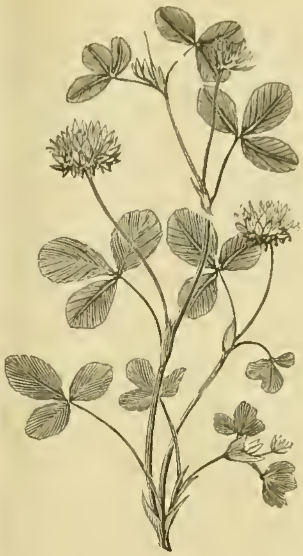
I HAVE been familiar with this plant several years, and will give you my experience with it, both as a farmer and a bee-keeper. It is the hardiest of all the clovers, thrives on almost any soil, but gives better results in soils containing some clay than in sandy soil. It makes a luxuriant growth in land too wet to grow red clover at all. The roots do not heave out of the ground in spring, as other clovers often do; therefore it has never been known to winter-kill in our locality, while last year fully 90 percent of the red clover here was killed. Some fields near me were sown two years ago with red and alsike mixt, half of each; but now very few plants of the red clover are to be found in those fields, while the alsike still flourishes as tho it were a native of the soil.

For sowing with timothy it can not be equaled by any other variety. This combination makes as heavy a hay crop as any; but the advantage of the alsike is, it is as easily cured as the timothy, and retains its beautiful bright green color in the hay, which is sometimes difficult to get in the red varieties. It remains green and succulent a long time after seed has fully matured, so it does not require harvesting "just at the right time," as is the case with other varieties.

As to its feeding value, I think it superior to any other kind, and my neighbors all agree with me on this point. The stalks, not being coarse and woody, are eaten absolutely clean by all kinds of stock—no waste.

Some farmers claim it does not make as good an aftergrowth as the red during dry seasons; but I can see no great difference in this respect. The dairy farmers in some parts of this State prefer to mix the seed in equal portions, claiming the best results in this way.

The seed may be sown on spring grain. This gives best results in our part of the state with all varieties of clover. Good catches are also usually had by sowing on winter rye or wheat in early spring before the frost is all out. We also sometimes sow on old timothy meadows with good results in early spring.



Alsike Clover.

Mixt with timothy, four pounds per acre of the alsike is sufficient; alsike alone, 6 to 8 pounds per acre, or about half the amount usually sown of other kinds. I have four acres, sown two years ago, 6 pounds to the acre, and the clover now stands a little thicker on the ground than I like it.

Those who will sow red clover should always mix some alsike with it. The alsike, being more hardy, occupies the spaces where the red fails to grow. When we sow with timothy we sow 2 quarts of alsike and 6 quarts of timothy per acre.

This season, up to June 27, we had the worst drouth ever known in this part of the State. Under these unfavorable conditions the alsike made the best and largest hay crop of all our grains. This, it seems to me, would indicate that it would do well in warmer climates than ours.

Alsike clover is the best honey-plant we have in Northern Wisconsin. I have never known it to fail to yield nectar abundantly since it was first grown here, about ten years ago. During our severe drouth here last June, it was the only plant our bees workt on, white clover being an entire failure with us. My 42 colonies stored 30 pounds each from the first crop. Since July 1, we have had abundant rains and warm weather, and the bees have been working on the after crop the past ten days, and are still storing honey from the alsike. My plan has been to encourage my neighbors to sow alsike by making a present to each member of the family a nice section of alsike honey, telling them that it was a small portion of the honey my bees gathered from their clover. All bee-keepers should so encourage their neighbors by giving them a taste of honey or by donating at least seed to give it a trial.—Gleanings in Bee-Culture.

Barron Co., Wis.

Wintering Bees Where Snow Drifts Deep, Etc.

BY G. M. DOOLITTLE.

QUESTION.—We have 25 colonies of bees in chaff hives which stand where the snow drifts deep. Would it do to put them in a room during winter, or could we fix a shelter over them where they are, moving them together under this shelter, or could we set up a shelter in front of each hive and let the snow drift over hive, shelter and all?

ANSWER.—If the room spoken of in the first question is an underground room or cellar, then I should say move the bees into this cellar at the beginning of winter, providing a temperature of from 41 to 48 degrees can be maintained; for I have the best of success in wintering bees in my bee-cellar, and in this the temperature stands at from 43 to 46 degrees. A part of my bees are in chaff hives and a part in single-walled hives, and I find that the bees in the chaff hives winter fully as well in the cellar as do the others. The only disadvantage chaff hives have for cellar-wintering lies in their extra weight and the room they take up in the cellar (according to my opinion), but these disadvantages are more than overcome by the advantage they possess during cool and cold weather coming in the fall before they are put into the cellar, and in the spring after they are put on their stands.

A spring wheelbarrow overcomes the difficulty of carrying chaff hives, while the packing of one hive on top of the other to the ceiling of the cellar overcomes the lack of room, in a measure. If the room spoken of is to be a room above ground, with no special provision made for controlling the temperature, then I should say, try almost any other way of wintering them, than in a room with an ungovernable temperature; for where the temperature in any room goes below the freezing-point, and remains thus for days or weeks, and during a warm spell rises to 50 degrees or more, bees are almost sure to perish before spring arrives. Moving the bees together under a shelter might answer, providing they can have a chance to fly during warm days in winter; still there is much work to this process, and, worse still, many bees are liable to be lost or become badly mixt up when the hives are placed back where they are wanted during the summer, after having been thus wintered.

The plan of having a shelter over the entrance of each hive, and letting shelter and hive drift over, I have tried several times, but with me it is not a success. Several of our best apiarists claim that this plan is a success with them, and advise the wintering of bees in this way, but I have yet to see the colony of bees in this locality over which the snow has been drifted from two to three months, that has not become uneasy, gone to breeding, contracted the bee-diarrhea, and exhausted its vitality to an extent sufficient to cause a bad case of spring dwindling, or loss of the colony altogether. After a process of time the bees seem to become too warm, break the cluster, commence brood-rearing to replace the bees dying of exhausted vitality, run to the entrance and fan there as in summer, the commotion thawing the snow all about the hive, until a cat or small dog could run all around the lower part of the hive, this causing them to consume their stores of pollen and honey very rapidly, which consumption brings on diarrhea and death, unless the bees have a chance to fly at about the time brood-rearing commences, and even then the colony is so weakened that it is of little use the following season.

Where the snow stays about the hive only for a few days or a week at a time, it will do no particular harm. But otherwise I would advise carrying the bees to some higher ground, where the snow does not drift, or else fix an underground cellar to winter in.

HALF-DEPTH FRAMES FOR EXTRACTING.

Question.—I workt five colonies the past season for extracted honey, using the full-depth Langstroth frame in the upper stories. These frames were filled half full of light-colored honey and half with dark, the light being in the upper part of each frame and the dark in the lower part. What I wish to know is, if I were to use half-depth frames could I secure the light honey in the upper set and the dark in the lower ones? If so, it would save mixing the honey when extracting, as was the case the past season, for I could not extract the light honey without having the dark all mixt with it.

Answer.—I very much doubt your ever having an experience again similar to the one outlined above, as seasons vary so much. Indeed, I hardly see how you could have had such a result this year, for in all of my experience I never saw a whole set of frames that were evenly half filled with light and dark honey. It is no rare occurrence to have one or two frames so filled that, practically speaking, they would be half filled with white honey and half with dark; but to have the whole upper story thus filled is something that does not happen more than once in a lifetime.

Half-depth frames are recommended by some of our most practical bee-keepers for upper stories for extracting; but I never heard any claim as coming from them that the light and dark honey could be kept separate by using such frames. Some years we have a large yield of white honey with little if any dark honey; other years just the reverse of this is the case; hence it will be seen that the supposition hinted at by the questioner could not possibly come to pass in such years; for when white honey was abundant the bees would use nearly all the room furnisht, in storing white honey, finishing out the very bottom parts of the combs with dark. When there was a light yield of white honey with a good yield of dark, just the reverse would be the case; namely, there would be a small quantity of white honey in the upper part of the upper half-depth frames, while the rest of the said frames would be filled with dark honey, and all of the lower ones.

The only way that I know of to avoid mixt honey is to either extract all of the white honey as soon as the white honey harvest is over, putting back the combs for the bees to use during the dark honey-flow; or take away the frames of white honey at the end of the white honey-flow, and substitute other frames in their places. Where one has the time that can be spared for extracting in the summer, the former is the preferable plan, as it requires a less investment in frames of comb; but where time is of great value during the summer months, and of little value at other times, it may pay to adopt the latter plan. In either case the white honey should be left on the hive as long as possible, taking it off just as the dark honey is beginning to appear, so that it may be as thoroly ripened as possible without being mixt with the dark.

Onondaga Co., N. Y.

Better Outlook for Southern California Bee-Keeping.

BY GEO. W. BRODBECK.

During the 14 years of residence in this State, I have endeavored to be reasonably conservative in all of my statements regarding the bee-beeping interests of Southern California; consequently, I have no fear of being considered an extremist in anything I may say.

The past three seasons (with an emphasis on the first two), have been the most disastrous successive seasons this section has ever known, and the present estimate is that fully 75 percent of the bees that were living in these southern counties four years ago, have perisht; the remaining 25 percent that survive are in the hands of our most enterprising bee-keepers. This is an instance fully demonstrating the "survival of the fittest."

While I sympathize fully with those who have met with such a serious financial loss, I am constrained to believe it will result in the building up of the bee-keeping industry of this section on a better and firmer basis.

California bee-keeping in the past has been conducted in a slipshod manner; and while we have many who are the peer of any bee-keeper in the United States, nevertheless it has been a lamentable fact that a great percentage cared but little how or in what manner they secured their product, with the consequent result of selling honey for any price they could get.

The few who survive the ordeal of the last three years, look forward to a brighter and better future of this industry in this great State, and at this writing, as we listen to the patter of the rain which has been falling almost continuously for five days, and in such quantity and at such an opportune season, that it incites a hope that the coming year may prove one of the phenomenal ones often referred to in the history of California bee-keeping.

Los Angeles, Co., Calif., Nov. 21.

P. S., Nov. 22.—We have had a fraction over six inches of rain up to the present, and every one I meet is happy.

B.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—Editor.]

Working an Out-Apiary for Comb Honey.

1. I understand you run your out-yard for comb honey. How do you manage it at swarming-time? Is some one there all the time thru the day watching swarms, to manipulate the colonies, exchanging supers, etc.? If not, how often do you go there in harvest time?

2. Why do you work your out-apiary for comb honey? Does it give better results in dollars and cents? Would you recommend working an out-yard for comb honey? Will it not do as well to run for extracted honey, counting the labor?

Indiana.

Answers.—1. It is not easy to say what the management is, for it is by no means always the same. Formerly a watcher was on hand all the time whose sole business was to watch for swarms and cage the clipt queens when a swarm issued. The caged queen was put in at the entrance of the hive far enough so the bees would be sure to take care of her. About 5 days after the issuing of the swarm, I cut out all queen-cells, and also 5 days later, when the queen was releast. No colony so treated ever swarmed again. Lately I have had no watcher, and we try to visit the out-apiary every 5 to 7 days. Something is done toward prevention of swarming by destroying all eggs found in queen-cells. Beyond that all sorts of plans have been tried and are being tried, without fully solving the problem. One way is to give the bees the same treatment already mentioned when they swarmed. That is, when grubs are found in cells, to cage the queen and treat the colony just as if they had swarmed.

2. I work out-apiaries for comb honey for much the same reason that one man works at blacksmithing and another at tailoring; I've got into the way of producing comb honey, and it's easier to run on in the same rut. If one can do as well with extracted honey in the home apiary, then by all means it is the best for the out-apiary, for the swarming matter could be managed more easily with bees run for extracted than for comb honey.

Hive for Extracted Honey.

What style of hive should I adopt for extracted honey? I have always used the Gallup hive, and have been thinking of changing and getting some standard make of hive.
WISCONSIN.

ANSWER.—If you have all the frames you need, it is doubtful if a change to any other form or size would bring gain enough to pay for the change. There are advantages, however, in having fixtures as nearly standard as possible, one great reason being that it is easier to get such goods at low rates; so if your hives are not in sufficient number, or if you have at present only a small number, so that the cost of change will not be great, you may do well to change to the dovetailed hive with its frame 17⅝x9⅛.

Amount for Winter Stores.

I have a colony of medium strength, which I am wintering on five frames, in the cellar, the frames being the Langstroth size. I fed rather late in the season, so that when I put them into the cellar, not more than half the honey-cells were capt in those frames. The rest all, or mostly all, had honey in them, but it was not capt over. Will this be enough to winter them on? If not, would one section filled with hard candy, placed on the frames, be enough?

I see you smile at my asking you to answer me, when I have given such a vague description, but please "make a guess."
MINNESOTA.

ANSWER.—Five combs ought to be enough, capt or uncapt. It will not be a bad plan, however, to give some hard candy, as being better for them than so much of the unsealed syrup, which may be rather thin.

Was Sugar in the Urine Caused by Honey?

I applied for a life insurance policy, but was rejected because there was sugar in my urine. The examining doctor told me that I ate too much honey. This would tend to show that honey has some bad effect. Was that doctor correct as to the cause of that sugar, or would you place the blame elsewhere than on the honey?
IOWA.

ANSWER.—If analysis showed the presence of sugar in the urine, and if nothing in that line had been consumed but honey, then it would be reasonable to conclude that the honey was at fault. If however, sugar and honey had been consumed, the case would be quite different. Sometimes a physician does not have clearly in mind the distinction between cane-sugar and honey, and if both have been consumed, he may charge to the account of the honey what should justly be charged to the sugar.

Wintering Bees—Rearing Queens.

1. I have 10 colonies, nine of which I bought. All are in 8-frame Langstroth hives, and are from last year. They filled from one to two supers, but the supers are taken off. Will they have enough in the eight frames, or must I feed them next spring?

2. I also would like to know what you think of my plan of wintering. I have them on the summer stands, which are in a shed built purposely for them. I have an empty super filled with fine hay on top of them, a canvas over the hive first to keep the hay from getting into the hive. I have them six inches apart, five in a row; two rows, one on top of the other. I have them stuft between, and about two feet thick at the back and on top, with hay. The front is unprotected, with the entrance about one-fourth open. Is that air enough? The hay I put in there to take up the moisture from the bees.

3. The one I caught last summer I put into a 9-frame hive with old combs. Can I rear queens from them if they winter? They are four or five banded Italians.
ILLINOIS.

ANSWERS.—1. A colony in an 8-frame hive, that has workt in supers is likely to have enough honey for winter. but not always. Sometimes there will be so much brood in the eight frames when the supers are on that the honey will be all crowded in the supers, then if they gather nothing after the supers are off they may be short.

2. Your plan of packing your bees ought to work well, but if the entrances are as small as some entrances, it would be better to leave the whole entrance open; that is, supposing the entrance to be only ⅜ inch or so deep.

3. There is no apparent reason why you should not be able to rear queens from them.

A Beginner's Questions.

1. Can I get better filled sections by having a bee-space over them?
2. Do bees start to work sooner with a mat or cover over the sections?
3. When producing extracted honey, does the queen-excluder interfere with swarming when placed over a 10-frame brood-chamber? I want to prevent swarming as much as possible.
4. Where do bumble-bees winter?
5. How does Mr. Coggshall manage swarming with all his out-apiaries?
6. How long can a queen be confined in an Alley queen and drone trap without injuring her?
7. How many pounds of honey will a Langstroth frame hold when spaced the proper distance?
8. Can you give me the address of some reliable queen-breeder in Italy?
9. How long does a drone-bee live?
10. What is the length of a bumble-bee's tongue?
QUERIST.

ANSWERS.—1. Doubtful. The advantage of a bee-space over sections is in other directions.

2. Generally not. They might do so at a time when the coolness of the weather would make a difference in temperature with and without covering.

3. If the excluder makes any difference, it ought to increase the likelihood of swarming, by confining the queen to a smaller space, and perhaps by the slight inconvenience to the bees caused by the presence of the excluder.

4. I don't know. Probably in their nests.

5. I don't know.

6. Under favorable circumstances she probably might do good work after several weeks' confinement. Generally her chances for much usefulness would lessen rapidly after a week's confinement.

7. Perhaps six.

8. I can not.

9. Probably in most cases until the workers decide it is too expensive a business to support a lot of idlers. This is likely to happen whenever pasturage becomes scarce. A queenless colony, however, will continue the lives of the drones. When the workers decide it is best to dispense with the continued presence of drones, they may be seen busily engaged in harrying the drones, the death of the latter being principally caused by the withholding of food by the workers.

10. Not sure I've ever seen it given.

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"The Hum of the Bees in the Apple-Tree Bloom" is the name of the finest bee-keeper's song—words by Hon. Eugene Secor and music by Dr. C. C. Miller. This is thought by some to be the best bee-song yet written by Mr. Secor and Dr. Miller. It is, indeed, a "hummer." We can furnish a single copy of it postpaid, for 10 cents, or 3 copies for 25 cents. Or, we will mail a half-dozen copies of it for sending us *one new* yearly subscription to the American Bee Journal at $1.00.

The Premiums offered this week are well worth working for. Look at them.

⁂ The Afterthought. ⁂

The "Old Reliable" seen thru New and Unreliable Glasses.
By E. E. HASTY, Richards, Ohio.

"GETTING BEES TO MAKE WAX."

Quite a good few of us do not take any stock in the old tradition about wax being (to the bees) an expensive article, which causes them a mysterious loss when they secrete it. A rotten tradition hardly worth the very small amount of powder required to blow it to pieces. To change honey to wax costs the bees a little valuable time; but beyond that it apparently costs them neither less nor more than what the relative water, carbon, oxygen and hydrogen of honey and wax naturally call for. (O king, the full pail *does* run over when you put a live turbot in it!) One by one sham mysteries have to "clear the coop." Well, this being thus, the Australian experiences in intentionally harvesting as much wax as possible during their great runs of honey is practical, dollar-and-cent apiculture, which we may well look into. I rather guess that Loyalstone's method of cutting off the lower half of each comb every time it is extracted is the winning way. The other way of cutting the whole of each alternate comb would make them build *some* when by the other method they would not build any; but it divides the comb-builders up into small sections, to no particular good, I reckon. As for the third method of slicing off half the face of the comb in uncapping instead of the thinnest possible sheet, I should think that to be the poorest of the ways mentioned. And indeed it straightly appears that in Australia bees are not always prompt to lengthen out again such shaved combs. I would remark that my bees very often seem reluctant to lengthen the cells of super combs. When I was experimenting in this line I cut from the *brood-chamber*, and took all the comb every three days, to keep the eggs from hatching—rather too severe a method for very extended use; but it utilizes one of the strongest of bee qualities—obstinacy. The Australian record of 11 pounds wax from one colony in a season—well, we would have to "scratch gravel" to come up to it. But 11x25x100=$275, from an apiary—worth scratching for. It is of interest to hear that the best honey-gatherers produce the most wax. Page 723.

COTTON HONEY A CHOICE ARTICLE.

That is quite high praise for cotton honey—combs of snow and contents of glycerine. If the flavor even tolerably corresponds, the South has at least one choice kind of honey. Let me see, this is Texas. A yield from cotton not by any means universally expected, I believe. Page 718.

A MOSES (NOT A CALEB OR JOSHUA) ON SPELLING REFORM.

And this last number I am reviewing closes with another shot for improved spelling. On that subject I am like Moses—delighted to view the good land, but not going in myself—absorbed in a more important reform that I am unwilling to lay an extra ounce of weight on—and too old. Would have to use both spellings for awhile, and I fear I should be all mixt up in the process till my page would be but a delirious species of "pi." When sentiment gets strong enough to sustain the move, two simple laws can help the reform amazingly without exactly taking away any one's liberty to spell, if he chooses, as crooked as the horns of Noah Webster's ram. Let one little law say that all public advertising shall be given to newspapers using the improved spelling; and let another little law say that books printed in the improved spelling may travel at a somewhat cheaper rate by mail.

CAUSES OF DISEASES OF BEES.

Pollen-shells heavily charged with fungi in *all* winter dysentery excreta in Texas. I suppose some of our wiseheads would incline to the darkey's explanation anent the chicken, "whoever put the pollen in there was no friend of ours." Dr. Howard is nobly considerate in admitting that it may be different in the North, where bees are quiet and shut in for months. That he has not been able to find a definite microbe in paralysis to which the disease can be charged, is of some interest to us. And much more so is his experience in trying to infect healthy colonies—can not as yet make them take paralysis *when conditions are sanitary*, *and nectar coming in lively*. Dr. Howard evidently does not *think* the queen communicates any disease to the eggs she lays. Good thing if we could be fully assured of that—and practical certainty may come by and by. But, on the whole, I'm glad there is no professor in my region to be starting every plague for experimental purposes. I should be thinking how the bubonic plague got loose in Vienna. Mr. Stahlman's article (page 743), helps my feelings on in this same direction.

BARRELS FOR LARGE USERS OF HONEY.

How strong the honey-dealers are in favor of barrels, as a general thing! Don't believe they "catch on" to the main objection. The main objection is the *impossibility* of making oak barrels so the staves will not shrink in contact with honey. The dealers persist in thinking that all the trouble is owing to careless cooperage. But we really seem to have some light in the direction of getting the barrels made of just the right kind of wood. Barrels are certainly *desirable* in supplying great bakeries that take honey by the ton. Pages 725-7.

WATER FOR BEES.

So Mr. Greiner wants both his bee-town and his man-town to be "dry" towns. He is right. Nonsense, and worse than nonsense, to give bees water in the winter. But his hint is also sensible that during cold spring weather, when a good many bees are perishing in the work of bringing water, perhaps something useful might be done in that line. I believe the trouble has hitherto been that the "contrary little critters" will go for water all the same, and neglect that which you give them. Water-carriers don't know what else to go at, perhaps. Had you been betimes with your watering, possibly they would never have *become* water-carriers.

BEES WINTERED IN A CLAMP.

Mr. Hutchinson's heavy loss of bees in a clamp is so illustrative that it should not be forgotten. Too many colonies for the space and air they were in. Air got a little bad, but they could have borne it, if they had all kept passive. Instead of that, they all got supremely active in the very natural effort to improve their air by fanning. This speedily used the oxygen up until the air got unendurably bad. Then every bee crawled in the direction from which oxygen was coming by percolation. Some may have suffocated, but probably most died of starvation, not knowing enough to get back to the food. Page 739.

EXPERIMENTING WITH THE GOLDEN SYSTEM.

The proposition of J. S. Hartzell, page 744, to prove the superiority of the Golden system by trying *one hive* is hardly what one would expect of a practical bee-man. Neither the success nor the failure of one hive can count for very much, unknown elements of the problem will creep in so. Even with dozens of test-hives in each of two methods it requires much thought and care on the part of the experimenter really to hold the scales level—and otherwise our favorite "hoss" is pretty apt to win the race.

GRANULATED SUGAR AND GLUCOSE.

The apparent error on page 760 is not an error in reality, I judge. I mean where Mr. Cowan says much of the granulated sugar of commerce is adulterated with glucose. Here the trouble seems to be that (being a scientist and also a foreigner) he doesn't sling our "United States" exactly as we do. Where he says glucose he does not mean the *fluid* article we mostly have in mind. And we apply the term "granulated" only to very dry white sugar, while he apparently means *brown* sugar in a granulated but moist state.

NO POLLEN IN NORMAL FINISHT HONEY.

Well, there is also my blunt declaration on page 746, that there is no pollen in normal finisht honey, and Mr. Cowan's, on page 759, exactly to the contrary. Not a case of what shall be done when doctors disagree, but what shall be done when one of the doctors in the temple of science disagrees with one of the door-keepers thereof. Mr. Cowan is an expert microscopist of large experience, while I am a very green and shockingly inexperienced one. Good chance for me to say I must have been mistaken; and yet somehow I decline to say it. I just point out the contradiction and the situation, and let things stand that way for a bit. Pretty cheeky, am I not? I have a sneaking idea that scientific men, as well as others, sometimes bandy sayings back and forth till they come to believe them, when no one ever actually proved them at all.

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GENERAL ITEMS

Bees Did Fairly Well.

My bees did fairly well this season. I had four colonies last year, and by chance increast to 28 this spring, a friend of mine offering me his whole apiary at a bargain. With my little experience, the "A B C of Bee-Culture," the American Bee Journal, and my good wife, I managed it very well. I devote all my time outside of the shop to my bees and a good-sized garden. We had only five swarms, and secured 1200 pounds of sweet clover comb honey, but had a lot of partly-filled sections left.

On account of no rain the clover crop was cut short, and the buckwheat crop was a complete failure.

I sold five colonies, and put 28 into winter quarters with plenty of stores.

Rock Co., Wis., Dec. 6. CHAS. LUEBKE.

An Old Bee-Keeper.

I have taken the Bee Journal ever since it was first publisht, and should feel lost without it. have owned bees and kept them ever since I was 14 years old, and I earned the money that I bought them with by dropping corn.

I will be 78 years old if I live until the 12th of next May. If there are any readers of the American Bee Journal that have been continuously in the bee-business longer than I have, I should like to have them say so thru the Journal.

I was sorry that I was not able to attend the National convention, but I have very much enjoyed reading the proceedings.

Delaware Co., O., Dec. 4. H. BESSE, M.D.

Unsatisfactory Season—Kind Words

The past season was rather unsatisfactory, tho it started in with the promise of a fair yield of honey. But first too dry, then too wet weather cut the yield short about one-half, tho I managed to secure a little over 800 pounds of section honey from 25 colonies, spring count, and an increase of 11 colonies. One peculiar thing about the swarms that I never experienced before, was that they produced very little surplus, only two supers from the 11 swarms. They were large swarms too, and came out early, before June 20th. One old colony that did not cast a swarm produced 82 well-filled sections.

As my health is too poor to do much else I seem to become more and more attacht to bee-keeping and the American Bee Journal, and intend to keep right on with both as long as possible.

I have been very much interested in the report of the National convention held in Chi-

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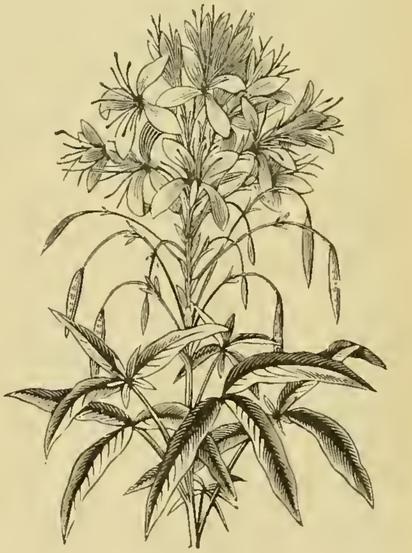

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cago, from the beginning, and am not at all anxious to have it abbreviated in the least. The same with C. P. Dadant's account of his travels in Europe.

Rev. E. T. Abbott's talk on food adulteration ought to be publisht in pamphlet form, and scattered over the whole country.

Mitchell Co., Iowa, Dec. 10. A. F. FOOTE.

The Past Season's Results.

This is the first year I ever kept more than four or five colonies. They increast to 12 and averaged 35 pounds to the colony.

GEORGE MITCHELL.

Cook Co., Ill., Dec. 13.

Bees Dying Off.

My bees are dying very fast. Since cold weather set in about half of them have died, and now I think they will not winter. I lost 3 colonies just the same way last winter. The trouble seemed to come from a colony to which I introduced a premium queen. I was away in the fall, and one day my wife saw a lot of dead bees in front of the hive, and she soon discovered that the bees from another colony were robbing this one, so she had it carried away 2½ miles. The bees all died in a short time. As cold weather came on the bees from the other colonies commenced to die and by Feb. 19th they were all dead.

A swarm was given to me in June of this year, and about two weeks after I got them I found that they were queenless. I sent for a queen and introduced her July 4th. But they did not build up as fast as I thought they ought to. The first of October they seemed to be quite full of bees, but now I should think there are about 2½ quarts. Of course they are clustered for winter and that may make some difference.

None of the bees seem to be old, as the wings are not worn any; they are not swollen nor shiny, and they have plenty of honey. I do not know of any one that does any spraying, and no one else is losing their bees as I am.

Last winter I put the bees into the cellar, but as it was damp I thought perhaps that made some difference, so this year I have them on the summer stands in an outside case, and some burlap on top of the frames.

AUSTIN STOVER.

Hancock Co., Maine, Dec. 6.

Measuring Bees' Tongues.

A short time ago two cages of bees were sent to me from J. H. Gerbracht, McHenry Co., Ill., for measurement. Cage No. 1 was a sample from a colony that stored 240 pounds of surplus honey, and were a strain of his own breeding. Cage No. 2 was from a five-banded strain that stored 135 pounds of surplus honey during the past season. The measurements of the bees from each cage are as follows:

Cage No. 1—Length of tongues were as follows: 6, 5.9, 6, 5.8, 6, 6, 5.9, 6, 5.8, 5.7. Average length, 5.9 millimeters.

Cage No. 2—Length of tongues were as fol-

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The Material entering into this celebrated knife is of the very best quality; the blades are hand-forged out of the very finest English razor-steel, and we warrant every blade. The bolsters are made of German silver, and will never rust or corrode. The rivets are hardened German silver wire; the linings are plate brass; the back springs of Sheffield spring-steel, and the finish of the handle as described above. It will last a last-time, with proper usage.

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How appropriate this knife is for a present! What more lasting memento could a mother give to a son, a wife to a husband, a sister to a brother, or a lady to a gentleman, the knife having the name of the recipient on one side?

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lows: 4.5, 5, 4.8, 4.7, 4.8, 5, 6, 5.5, 4.5, 4.3. Average length, 4.9 millimeters.

It will be seen that the measurements are very irregular, probably owing to the fact that the bees were of all ages, as Mr. Gerbracht says he ran them into the cage just as they came. These colonies were on a double stand, with the entrances only a few inches apart. This will easily account for the one long-tongued bee in the cage with the five-banded ones, as they doubtless workt from one hive to another to a certain extent. One experiment, of course, does not absolutely prove anything, but after many cases of this kind I am sure that the difference of length of tongue goes with the corresponding difference in honey-production, other things being equal.

The more work I do along this line the more certain I am that there is nothing in bee-culture to-day that furnishes the opportunity for improvement that is offered along this line of improving the strains of our bees. I am confident that there are tons of honey going to waste every year simply because the bees have not the ability to gather it. As I have said before, it probably will not be practical for every bee-keeper to run an experiment station of his own, but he can well afford to pay more attention to this phase of improvement, and select his breeding-stock from his best workers, even if they are not the highest colored bees in his yard.

J. M. RANKIN,
Apiarian Dept. Mich. Agricultural College.

Two Almost Entire Failures.

We have had two seasons in succession of almost entire failures of the honey crop, and at least 50 percent, if not more, of the bees have perisht from starvation, and the effects of foul brood, which has gained a firm foothold here.

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colonies or more, but they are kept in a slipshod manner, as the bee-keepers have the impression that they know all about keeping bees, and have no use for any bee-papers. I think it is safe to say that 90 percent of them never heard of foul brood, and many will not believe that it amounts to anything, altho they have lost nearly all their bees from the effects of it.

I am trying to save some of mine and have been very successful by putting them in clean hives filled with foundation, but it is time and money almost thrown away, so long as my neighbors will not take any precautions to prevent spreading it. If I can succeed in saving some of them until the overwise bee-keepers are bee-keepers no more, and their bees are a thing of the past, perhaps I can then rid them of disease, and do something with them, but this is a very poor locality for bees, at best.

The present outlook for bee-keeping in this vicinity is very discouraging, but I enjoy reading the Bee Journal, and will take it one year more at least, bees or no bees.

Tioga Co., Pa., Dec. 5. A. D. WATSON.

Results of the Season of 1900.

Bees did next to nothing this year. I secured about 800 pounds from 24 colonies. They never started out better than they did last spring, but the weather was first cold and then dry to extremes.

I received the premium Dr. Miller queen all right, was much pleased with her, and had no trouble in introducing.

I have 40 colonies in the cellar, but several of them are light. We hope for better results next year. C. A. FAIRBANKS.

Jones Co., Iowa, Dec. 12.

Poor Season for Bees.

We have been doing some *bee-keeping* in this neck of the woods the past season, but *honey-getting* has been almost a total failure.

The early spring was very promising. Bees built up splendidly, and when white clover should have bloomed they were ready to gather in the harvest. But, alas! a drouth such as the writer has never seen so early, set in, and never did vegetation stand as still as it did then. The result was, of course, not a bit of surplus white clover or basswood honey in most localities in this county. There were a very few localities where the bees gathered a little surplus white honey. I have been obliged to disappoint my customers as never before.

There was some fall honey gathered, and merchants are very glad to get it at 12 and 13 cents per pound. White honey from Michigan is bringing 20 cents.

Tho the bees did not store any surplus worth mentioning, they are generally in good condition for winter with abundance of stores.

GEORGE SPITLER.

Crawford Co., Pa., Dec. 7.

A Foolish Claim.

The retail price of honey in this market is 20 cents per pound. It is claimed that full sheets of foundation were given to the bees, and that they were fed glucose, as the very white honey in the market has no sweet taste!

I leave for my winter home in Florida, Dec. 12th. MRS. L. HARRISON.

Peoria Co., Ill., Dec. 10.

Results of the Season, Etc.

I commenced the season with about 77 colonies, which increast to 125. I secured about 500 pounds of comb honey and 2000 pounds of extracted, and get 15 cents per pound for the comb, and retail the extracted at 11 and 12½ cents—9 pounds for $1, or 12½ cents a pound for a less quantity.

In preparing the bees for winter I fed, I should think, about 600 or 700 pounds of early comb honey saved for the purpose, in extracting-combs. I have not fed any sugar syrup for a long time as people are so afraid they will get some of it in the honey.

I, for one, would be a pleased man to see the Brosius bill past. It would add very much to the use and sale of extracted honey, and would, in some ways perhaps, help the sale of comb honey.

We are having some thawing and freezing

DITTMER'S FOUNDATION Wholesale and Retail

This foundation is made by an absolutely non-dipping process, thereby producing a perfectly clear and pliable foundation that retains the odor and color of beeswax, and is free from dirt.

Working wax into foundation for cash, a specialty. Write for samples and prices.

A full line of Supplies at the very lowest prices, and in any quantity. Best quality and prompt shipment. Send for large, illustrated catalog.

GUS. DITTMER, Augusta, Wis.

Beeswax Wanted.

Please mention Bee Journal when writing.

BEE-SUPPLIES.

Muth's Square Glass Honey-Jars.
Send for Catalog.

HONEY AND BEESWAX WANTED.
C. H. W. WEBER,
42Atf 2146 Central Ave., Cincinnati, Ohio.

BEE-SUPPLIES!

☞Root's Goods at Root's Prices☜

POUDER'S HONEY-JARS and everything used by bee-keepers. Prompt Service—low freight rate. Catalog free. WALTER S. POUDER,
512 Mass. Ave., INDIANAPOLIS, IND.

Please mention Bee Journal when writing.

STUDENTS RETURNING HOME

For holiday vacations can, upon presentation of proper credentials, obtain tickets via Nickel Plate Road, to all points in Central Passenger Association territory, at a fare and a third for the round trip. Tickets will be sold on day of closing school and on day immediately preceding closing date; good returning until date school reconvenes, but not later than January 8, 1901.

For information as to train service to Ft. Wayne, Cleveland, Fostoria, Erie and other points, call on or address John Y. Calahan, General Agent, 111 Adams St. Chicago Passenger Station, Van Buren St. and Pacific Ave., on the Elevated Loop. (43)

The Ohio Farmer
AND THE
American Bee Journal,
Both One Year for only $1.40.

THE OHIO FARMER is clearly one of the leaders of the agricultural papers of this country. It is a 20-page weekly, often 24 pages, handsomely printed on good paper, and CLEAN in both reading and advertising columns. It has the largest actual staff of editors and correspondents (all farmers) of any farm paper publisht, and is practically progressive in defending the farmer's interests.

IT WILL HELP YOU MAKE "THE FARM PAY." Send to OHIO FARMER, Cleveland, Ohio, for a free sample copy.

REMEMBER, we send both the Ohio Farmer and the American Bee Journal, both one year for only $1.40. Address,

GEORGE W. YORK & CO., 118 MICHIGAN STREET, CHICAGO, ILL.

SELF-REGULATING
We have a perfect system of regulating temperature and moisture.
MARILLA INCUBATORS and BROODERS are guaranteed. Your money back if you want it. Send 2c stamp for catalog
MARILLA INCUBATOR CO., Box 31, Rose Hill, N.Y.

Please mention Bee Journal when writing.

California! If you care to know of its Fruits, Flowers, Climate or Resources, send for a sample copy of California's Favorite Paper—

The Pacific Rural Press,

The leading Horticultural and Agricultural paper of the Pacific Coast. Publisht, weekly, handsomely illustrated, $2.00 per annum. Sample copy free.

PACIFIC RURAL PRESS,
330 Market Street, - SAN FRANCISCO, CAL.

LOW RATES TO THE SOUTH.

Excursion tickets at reduced rates are now being sold by the Chicago, Milwaukee & St. Paul Railway to the prominent resorts in the South, including Jacksonville, Fla., Mobile, Ala., New Orleans, La., Savannah, Ga., El Paso, Tex., which are good for return passage at any time prior to June 1, 1901. Information regarding rates, routes, time, etc., can be obtained on application to any coupon ticket agent of the Chicago, Milwaukee and St. Paul Railway.

weather, which I fear will be a little hard on the clover.

I put my bees in the cellar about the middle of November, and they seem to be very quiet.

It is hard to see how you can furnish so good a paper for so little money. May the American Bee Journal live long to stand for the rights of bee-keepers and be a foe to adulteration and swindlers.

Hardin Co., Iowa, Dec. 11. W. C. NUTT.

CONVENTION NOTICES.

New York,—The annual meeting of the New York State Association of Bee-Keepers' Societies will be held in the Kirkwood, at Geneva, N. Y., Wednesday, Jan. 9, 1901, at 10 a.m., and continue thru the afternoon and evening. An interesting program has been arranged, and a good time is expected. C. B. HOWARD, Sec.
Romulus, N. Y.

Michigan.—The next annual meeting of the Michigan State Bee-Keepers' Association will be held in the Grange Hall, Traverse City, Dec. 26 and 27, 1900, commencing at 2 p.m. This will without doubt be the largest attended meeting in the State for many years. We are to be honored with the presence of Mr. A. I. Root, whose name has become almost a household word, not only thruout the United States, but the world, wherever bees are kept. The program will be in the form of an open parliament, and those topics will be discust that are nearest to bee-keepers' interests. A beautiful and novel badge has been adopted by the officers of the association, and will be sold at cost, 25 cents. and the annual dues will be 25 cents more. This will constitute expenses, except railroad and hotel bills. Reduced rates on all railroads, and the following hotels have made reduced rates to bee-keepers: Park Place Hotel, $1.50; Hotel Whiting, $1.00 to $1.50; Hotel Plankborn, $1.00; Hotel Shilsom, $1.00; and Columbia Hotel, $1.00 to $1.25. Certainly all should be suited with the above rates to choose from.
Fremont, Mich. GEO. E. HILTON, Pres.

TOUR OF ALL MEXICO
in Pullman's finest Compartment Drawing Room, Library, Observation and Dining Cars—all Vestibuled—with the celebrated
OPEN-TOP CAR "CHILILITLI"
for Observation in the Mountains and Canons, and Dining Car in the Tropics.

A delightful trip of 38 days with **Three Circle Tours in the Tropics** of the South of Mexico and a **Visit to the Ruined Cities.**

All exclusive features of these itineraries of leisurely travel and long stops—The Special Train starts Tuesday, Jan. 22, from Chicago.

TOUR OF PUERTO RICO.

SPECIAL PULLMAN CARS leave Chicago **Thursday, Jan. 17,** and **Thursday, Feb. 14,** at 9:30 a.m., connecting with the splendid new steamships Ponce and San Juan, sailing from New York the second day following. Individual tickets sold for other sailing dates, alternate Saturdays.

TICKETS INCLUDE ALL EXPENSES EVERYWHERE

These select limited parties will be under the special escort and management of THE AMERICAN TOURIST ASSOCIATION, Reau Campbell, General Manager, 1423 Marquette Building, Chicago.

Itineraries, Maps and Tickets can be had on application to Agents of the Chicago, Milwaukee & St. Paul R'y.

The Emerson Binder.

This Emerson stiff-board Binder with cloth back for the American Bee Journal we mail for but 60 cents; or we will send it with the Bee Journal for one year—both for only $1.40. It is a fine thing to preserve the copies of the Journal as fast as they are received. If you have this "Emerson" no further binding is necessary.

GEORGE W. YORK & CO.,
118 Michigan Street, CHICAGO, ILL

DR. PEIRO,
34 Central Music Hall, CHICAGO.

Please mention Bee Journal when writing.

MERIT ALWAYS WINS.

The hard times of the past three or four years have been very destructive to all industrial affairs, and the railroads have had unusual amount of difficulty in making both ends meet. Roads that have, during this trying period, earned dividends while at the same time affording high-class transportation facilities to their patrons, have, indeed, been fortunate. And such an event speaks well for the management of the roads.

The record of the Nickel Plate Road during the recent period of industrial depression, has indeed been remarkable, and it speaks most eloquently of he conservative judgment of the managers. For this road has made great and steady progress in the material improvement of its roadway and appliances, and in perfecting its equipment. The interests of the public have been in no wise neglected; in fact, the success of this road has inured to the benefit of the public, as much, if not more, than to the stockholders. The condition of the road to-day shows this. Great and valuable improvements of a permanent character have been made—in the shape of strengthening the roadway, bridges and other accessories, and procuring new and improved safety appliances; new coaches have been added, elegant Pullman sleeping-cars put on, new and powerful engines have been placed in service, and everything has been done to raise the standard of the road, to perfect its service, and to give it a leading place among the best roads in the country. The result has been obvious. The people have observed the progressive spirit of this road, have given it a liberal patronage, have enjoyed its excellent facilities, and that tells the whole story of a highly successful enterprise.

Among the most noteworthy improvements effected by the Nickel Plate Road is the introduction of a first-class dining-car service, which has won the approval of the best class of patrons. Then the coaches have been illuminated by the brilliant Pintsch gas, heated by steam, and placed in care of a colored porter, so the passengers have had the best that money can afford, at the lowest rates. The thru train service of the Nickel Plate, running in connection with the West Shore and Fitchburg Railroads over the great Hoosac Tunnel Route, between New York, Boston and Chicago—ranks with the best in the country, and has become deservedly popular. Elegant new coaches, and palatial Pullman buffet sleeping-cars run thru without change; the service is unexcelled, the time fast, scenery most fascinating.

Located along the south shore of Lake Erie are many substantial and attractive summer resorts that are yearly growing in popularity, and this class of travel promises a continual increasing source of revenue to the Nickel Plate Road. 48A4t

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Dec. 7.—The demand has fallen off very much of late, but prices have not declined to any great degree from those prevailing for the past 60 days, but any pressure to sell would cause a decline. Fancy white comb, 16c; No. 1, 15c; amber and travel-stained white, 13@14c; dark and buckwheat, 10@11c. Extracted, white, 7½@8c; amber, 7@7¼c; buckwheat and other dark grades, 6@6½c. Beeswax, 28c.
R. A. BURNETT & Co.

KANSAS CITY, Dec. 6.—Fancy white comb, 16@16½c; choice, 15c; light amber, 13½@14c; dark, 10c. Extracted, 7½@8c. Beeswax, 22@28c. Receipts very light; demand good.
W. R. CROMWELL PRODUCE CO.,
Successors to C. C. Clemons & Co.

BUFFALO, Dec. 7.—Honey is so high that it curtails the demand very materially. Sales are moderate, and some lots will have to be cut to sell. Fancy comb, 17@18c; choice, 16c; other grades, 10@15c. No extracted, and none wanted. Beeswax quiet at 25@30. BATTERSON & Co.

ALBANY, N.Y., Dec. 6.—Fancy white, 17@18c; No.1, 16@17c; No. 2, 14@15c; mixt, 13@14c; buckwheat, 12½@13½c. Extracted, white, 8@8½c; mixt, 7@7½c.

The honey market is steady with light receipts and good, stiff prices. Extracted, market quiet and but little movement. Will be more demand later on. H. R. WRIGHT.

BOSTON, Dec. 7.—Our market on honey continues strong, with light receipts. Fancy one-pound cartons, 17c; A No. 1, 15@16c; No. 1, 15c; No. 2, 12@13c. Extracted from 7½@8½ cents, according to quality. Beeswax steady at 25@27c.
BLAKE, SCOTT & LEE.

CINCINNATI, Sept. 21.—The demand for fancy comb honey is good and finds ready sale at 16@16½c; No. 1, 15c. The demand for extracted honey at present is slow and offer same by the barrel as follows: White clover, 8½@9c; Southern, 6½@7½c; Florida, 7@8 cents, according to quality. Beeswax, 27c.

The above are MY SELLING PRICES. I do not handle any honey on commission, but pay spot cash on delivery. C. H. W. WEBER.

NEW YORK, Nov. 20.—Good demand continues for all grades of comb honey. We quote: Fancy white, 15@16c; No. 1 white, 14c; No. 2 white 12@13c; amber, 12c; buckwheat, 10@11c. Extracted in fairly good demand at 7½@8c for white, and 7c for amber; off grades and Southern in barrels at from 65@75c per gallon, according to quality. Not much demand for extracted buckwheat as yet. Some little selling at 5½@6c. Beeswax firm at 28 cents.
HILDRETH & SEGELKEN.

DETROIT, Dec. 10—Fancy white comb, 15@16c; No. 1, 13@14c; dark and amber, 10@12c. Extracted, white, 8@8½c; amber and dark, 6@7c. Beeswax, 26@28c. M. H. HUNT & SON.

SAN FRANCISCO, Dec. 5.—White comb, 13@14 cents; amber, 11½@12½c; dark, 8@9c. Extracted, white, 7½@8c; light amber, 6¾@7¼c; amber, 5½@6½c. Beeswax, 26@28c.

There is no opportunity for much activity in this article, spot stocks being of such slim proportions as to admit of little other than a light jobbing trade. Market has a firm tone, with prospect of values being maintained at current range thruout the season.

A HONEY MARKET.—Don't think that your crop is too large or too small to interest us. We have bought and sold five carloads already this season, and want more. We pay spot cash. Address, giving quality, quantity and price,
THOS. C. STANLEY & SON, Fairfield, Ill.
Please mention Bee Journal when writing.

—DO YOU WANT A—
High Grade of Italian Queens
OR A CHOICE STRAWBERRY?
Send for descriptive price-list.
D. J. BLOCHER, Pearl City, Ill.
47A26t Mention the American Bee Journal.

BEES QUEENS
Smokers, Sections, Comb Foundation
And all Apiarian Supplies cheap. Send for
FREE Catalogue. E. T. FLANAGAN, Belleville, Ill.
Please mention Bee Journal when writing.

We have a Large Stock on hand and can ship promptly.

SEND US YOUR ORDERS FOR

Hives, Extractors

OR ANYTHING YOU WANT IN THE BEE-KEEPING LINE.

WE MAKE ONLY THE BEST.

☞ Our Falcon Sections and New Process Foundation are ahead of everything, and cost no more than other makes. New Catalog and copy of THE AMERICAN BEE-KEEPER free. Address,

THE W. T. FALCONER MFG. CO.,
JAMESTOWN, N. Y.

☞ W. M. GERRISH, East Notingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.

PATENT WIRED COMB FOUNDATION

Has no Sag in Brood-Frames.

Thin Flat-Bottom Foundation

Has no Fishbone in the Surplus Honey.
Being the cleanest is usually workt the quickest of any foundation made.

J. A. VAN DEUSEN,
Sole Manufacturer,
Sprout Brook, Montgomery Co., N.Y.

Please mention Bee Journal when writing

SWEET CLOVER

And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white)	60c	$1.00	$2.25	$4.00
Sweet Clover (yellow)	$1.50	2.80	6.25	12.00
Crimson Clover	70c	1.20	2.75	5.00
Alsike Clover	90c	1.70	3.75	7.00
White Clover	90c	1.70	3.75	6.50
Alfalfa Clover	80c	1.40	3.25	6.00

Prices subject to market changes.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 ceuts per pound if wanted by mail.

GEORGE W. YORK & CO.
118 Michigan Street, - CHICAGO, ILL.

☞ IF YOU WANT THE

BEE-BOOK

That covers the wnole Apicultural Field more completely than any other publisht, send $1.25 to Prof. A. J. Cook, Claremont, Calif., for his

Bee-Keepers' Guide.

Liberal Discounts to the Trade.

FALL SPECIALTIES

Shipping-Cases, Root's No-Drip; Five-Gallon Cans for extracted honey, Danz. Cartous for comb honey. Cash or trade for beeswax. Send for catalog. M. H. HUNT & SON, Bell Branch, Mich.

Please mention Bee Journal when writing

REDUCED RATES FOR CHRISTMAS AND NEW YEAR HOLIDAYS.

The Nickel Plate Road will sell tickets Dec. 22 to 25, inclusive, Dec. 31, 1900, and Jan. 1, 1901, at rate of a fare and a third for the round trip, to any point located in Central Passenger Association territory, good returning to and including Jan. 2, 1901. Vestibuled sleeping-cars. Individual club meals, ranging in price from 35 cents to $1.00, served in dining-cars. Address, John Y. Calahan, General Agent, 111 Adams St., Chicago, for particulars. Depot, Van Buren St. and Pacific Ave., on the Elevated Loop. (42)

23rd Year Dadant's Foundation. 23rd Year

We guarantee satisfaction. ❊❊

What more can anybody do? BEAUTY, PURITY, FIRMNESS, No SAGGING, No LOSS.
PATENT WEED-PROCESS SHEETING.

Why does it sell so well? ❊❊

Because it has always given better satisfaction than any other.
Because in 23 years there have not been any complaints, but thousands of compliments.

Send name for our Catalog, Samples of Foundation and Veil Material.
We sell the best Veils, cotton or silk.

BEE-KEEPERS' SUPPLIES OF ALL KINDS.

Langstroth on the Honey-Bee, Revised

The Classic in Bee-Culture—Price, $1.25, by Mail.

Beeswax Wanted ❊ ❊ ❊

AT ALL TIMES.

CHAS. DADANT & SON,
Hamilton, Hancock Co., Ill.

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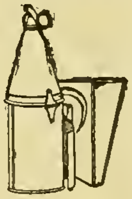

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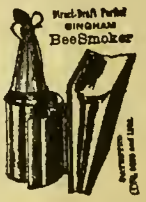

made of sheet-brass which does not rust or burn but should last a life-time. You need one, but they cost 25 cents more than tin of the same size. The little pen cut shows our brass hinge put on the three larger sizes.

No wonder Bingham's 4-inch Smoke Engine goes without puffing and does uot

DROP INKY DROPS.

The perforated steel fire-grate has 381 holes to air the fuel and support the fire.

Prices: Heavy Tin Smoke Engine, four-inch Stove, per mail, $1.50; 3½-inch, $1.10; three-inch, $1.00; 2½-inch, 90 cents; two-inch, 65 cents.

BINGHAM SMOKERS

are the original, and have all the improvements, and have been the STANDARD OF EXCELLENCE for 22 years. Address, **T. F. BINGHAM, FARWELL, MICH.**

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Sections==A Bargain.

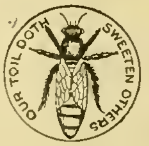
We have 50,000 3⅝x5x1½ inch plain sections, and as our call for them is light, we will sacrifice them. Prices very low. Write.

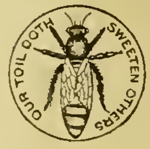
Apiaries—Glen Cove, L.I. **I. J. STRINGHAM, 105 Park Place, New York, N. Y.**

Please mention Bee Journal when writing.

Four Celluloid Queen=Buttons Free

AS A PREMIUM


OUR TOIL DOTH SWEETEN OTHERS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For sending us ONE NEW SUBSCRIBER to the American Bee Journal for three months with 30 cents, we will mail you FOUR of these pretty buttons for wearing on the coat-lapel. (You can wear one and give the others to the children.) The queen has a golden tinge.

This offer is made only to our present regular subscribers.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate, it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

Prices of Buttons alone, postpaid: One button, 8 cts.; 2 buttons, 6 cts. each; 5 or more, 5 cts. each. (Stamps taken.) Address,

GEORGE W. YORK & CO., 118 Michigan St., CHICAGO.

AMERICAN BEE JOURNAL

GEORGE W. YORK,
Editor.

CHICAGO, ILL., DECEMBER 27, 1900.

FORTIETH YEAR.
No. 52.

WEEKLY

E. WHITCOMB, of Nebraska,
Director of the National Bee-Keepers' Association.

THE AMERICAN BEE JOURNAL.

PUBLISHT WEEKLY BY

GEORGE W. YORK & Co.

118 Michigan St., Chicago, Ill.

Entered at the Post-Office at Chicago as Second-Class Mail-Matter.

IMPORTANT NOTICES:

The Subscription Price of this journal is $1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50c a year extra for postage. Sample copy free.

The Wrapper-Label Date of this paper indicates the end of the month to which your subscription is paid. For instance, "Dec00" on your label shows that it is paid to the end of December, 1900.

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Advertising Rates will be given upon application.

Reformed Spelling.—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "t" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

The Bee-Keeper's Guide

Or, Manual of the Apiary,

—BY—

PROF. A. J. COOK.

460 Pages—16th (1899) Edition—18th Thousand—$1.25 postpaid.

A description of the book here is quite unnecessary—it is simply the most complete scientific and practical bee-book publisht to-day. Fully illustrated, and all written in the most fascinating style. The author is also too well-known to the whole bee-world to require any introduction. No bee-keeper is fully equipt, or his library complete, without THE BEE-KEEPERS' GUIDE.

This 16th and latest edition of Prof. Cook's magnificent book of 460 pages, in neat and substantial cloth binding, we propose to GIVE AWAY to our present subscribers, for the work of getting NEW subscribers for the American Bee Journal.

Given for TWO New Subscribers.

The following offer is made to PRESENT subscribers only, and no premium is also given to the two NEW subscribers—simply the Bee Journal for one year:

Send us TWO NEW SUBSCRIBERS to the Bee Journal (with $2.00), and we will mail you a copy of Prof. Cook's book FREE as a premium. Prof. Cook's book alone sent for $1.25, or we club it with the Bee Journal for a year—both for only $1.75. But surely anybody can get only TWO NEW SUBSCRIBERS to the Bee Journal for a year, and thus get the book as a premium. Let everybody try for it. Will YOU have one?

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YELLOW OR WHITE

Sweet Clover Seed

Free as a Premium

For Sending us One New Subscriber for a Year.

There has been so much written about both the white and the yellow variety of sweet clover, that we will simply say here that if one of our present regular subscribers will send us $1 with a new name for next year (1901), we will send the new subscriber the balance of this year's (1900) numbers free, and mail, postpaid, to the one sending the new name and the dollar, either **one pound** of yellow sweet clover seed, or **two** pounds of the white sweet clover. This is a good chance to get a start of both kinds of these honey clovers. Better send two new subscribers (with $2.00) and get the three pounds of seed. Address,

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BEST

Extracted Honey For Sale

ALL IN 60-POUND TIN CANS.

ALFALFA HONEY *******

This is the famous White Extracted Honey gathered in the great Alfalfa regions of the Central West. It is a splendid honey, and nearly everybody who cares to eat honey at all can't get enough the Alfalfa extracted.

BASSWOOD HONEY *******

This is the well-known light-colored honey gathered from the rich, nectar-laden basswood blossoms in Wisconsin. It has a stronger flavor than Alfalfa, and is preferred by those who like a distinct flavor in their honey.

Prices of Either Alfalfa or Basswood Honey:

A sample of either, by mail, 8 cents; samples of both, 15 cents—to pay for package and postage. By freight—one 60-pound can, 9½ cents per pound; two cans, 9 cents per pound; four or more cans, 8½ cents per pound. Cash must accompany each order. If ordering two or more cans you can have half of each kind of honey, if you so desire. The cans are boxt. This is all

ABSOLUTELY PURE BEES' HONEY,

The finest of their kinds produced in this country.

Read Dr. Miller's Testimony on Alfalfa Honey:

I've just sampled the honey you sent, and it's prime. Thank you. I feel that I'm something of a heretic, to sell several thousand pounds of honey of my own production and then buy honey of you for my own use. But however loyal one ought to be to the honey of his own region, there's no denying the fact that for use in any kind of hot drink, where one prefers the more wholesome honey to sugar, the very excellent quality of alfalfa honey I have received from you is better suited than the honeys of more markt flavor, according to my taste. C. C. MILLER.
McHenry Co., Ill.

Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

Address,

GEORGE W. YORK & CO., 118 Michigan St., Chicago, Ill.

ESTABLISHT IN 1861
AMERICAN
THE OLDEST BEE-PAPER IN AMERICA
BEE JOURNAL

40th YEAR. CHICAGO, ILL., DECEMBER 27, 1900. No. 52.

❊ Editorial. ❊

A Happy New Year we wish to every one who reads the American Bee Journal. Yes, and a happy New Century, too—tho, in all probability, very few now living will see the whole of the 20th century, which begins with 1901.

◆

Volume 40 of the American Bee Journal closes with this number. It is getting old, and, like ripe fruit, should be mellow and sweet. We only hope that in its future years it may be as great a help and blessing to its hosts of readers as it has been in all its past years. If we shall be permitted to live, and labor upon it, it will likely become better with its increasing years. At least that will be our aim.

◆

The Annual Index will be found in this number. It will prove of immense value to all who have been wise enough to preserve the weekly copies as they were received during the year. While its preparation involved no small amount of labor, it is also of no small importance, as by referring to it every subject that one wishes to look up can easily be found and reread. Those who have not all the copies will be surprised, by reading over the index, to find how great has been the variety of topics treated during this year in the American Bee Journal.

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Getting Outside Sections Filled.—It is well known that a super of sections will not all be promptly finisht at the same time, some of the outside sections being still unsealed when the rest are fully completed. The Pettit plan is devised to overcome this difficulty, and some practice returning the unfinisht sections to the bees to have them completed. F. L. Thompson suggests a plan which, altho he has not tried it, promises so well that it may be well worth considering. He says in the Progressive Bee-Keeper:

> Being very short of time this summer, and sometimes of material, I used a number of last year's sections, with more or less honey in them, for the outside rows in a number of supers in one yard, and noticed that in those supers the bees, as a rule, *commenced* work on the new sections in the rows next the outside ones. They did not finish them sooner than the center ones, but as soon, so that I was almost always enabled to handle supers instead of sections in that yard, in such cases.
>
> Of course, such a means of arriving at the result would hardly pay in ordinary circumstances—it makes more supers of new sections to handle, for one thing. But it suggests an idea that may be worth while, that if two *very thin* permanent combs, one on each side, were allowed to remain in each super thruout the season, the bees in ordinarily strong colonies would likely finish the outside rows soon enough to enable one to handle supers instead of sections, just as well as if the combs were thick, and the expense of the honey thus permanently invested, as it were, would be slight.
>
> I have thought of laying a sheet of foundation on an ordinary separator, warming it sufficiently to attach it to the wood, then cleating it with five half-inch cleats, and placing it outside of each outside row in T-supers made slightly wider than usual. This would give two permanent one-sixth inch combs (after once being built out) next the outside of each super, and have the same effect as if the two outside rows were honey-combs. I have never tried it.

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Reducing the Swarming Habit.—Harry Lathrop, having mentioned in Gleanings in Bee-Culture that there was a notable decrease in the amount of swarming by his bees, he was urged to say just why he thought there had been such decrease. He prefaces his reply by saying that he has had in years no swarm from colonies workt exclusively for extracted honey, and seems to suppose that bee-keepers in general have no swarms from such colonies. As to those workt for comb honey, about one-third of them swarm in good honey-years, but swarming is much more troublesome in years when bees get just enough to keep brood-rearing going with little or no storing. His practice is to keep his comb-honey colonies as busy in the sections as possible, watch them closely, and give storage-room as needed, removing the finisht supers promptly. This being followed up year after year results in the small numbers mentioned, but he would expect the same results only after several years with colonies which had been in the habit of sending out two or three swarms every season.

He quotes Frank McNay as agreeing with him in the opinion that by proper management bees can be made to lose their desire and tendency to swarm. The following very emphatic testimony is quoted as coming from Mr. McNay:

> He related how at one time he purchast a good-sized apiary from a farmer, and workt them the same as he did his other yards, but was surprised to find these bees casting swarms right along, while there was none in the other apiaries. In apiaries of bees that he has owned and operated for a number of years he has so little swarming that it is not necessary to keep any one in on the watch.

All of which is very encouraging to those who are making effort by way of selection to obtain bees with little tendency to swarm. It can hardly be repeated too often or too emphatically, that it lies within the power of *every* bee-keeper to work for results in this line. No great amount of skill or knowledge is required to discourage those conditions that are known to favor swarming, and then to breed from stock the freest from the habit of swarming. The man who does this need wait no long series of years for his reward. Immediate results will be obtained in the increase of the honey crop, for it seems now to be pretty well agreed that non-swarming and good gathering keep very close company. The fact can not be disputed that there is now a great difference in bees as to the tendency to swarm. Can it be reasonably questioned that if care be taken each year to breed from those least given to swarming, the habit will each year grow less and less?

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The Bee-Keeper of Limited Means has his case diagnosed in the Progressive Bee-Keeper by R. C. Aikin. He says:

> There is almost a necessity that a poor man—one with little or no capital to push a business in a special and wholesale way—should engage in several lines. Competition is sharp, and the man who has hundreds of colonies of bees, and an equipment in proportion with all the faculties to handle them, can produce cheaper than the man with a few colonies. A man with ten colonies of bees, a few dozen hens, two or three pigs, a cow, a horse, fruit and a vegetable garden, and above all *owning these things*, can live and be comfortable in a modest way, but can not well lay up money. The man with his hundreds of colonies, and selling at a given price, will make more money per colony from his apiaries than will the man with the few. Then with the garden, fruit and other things in a small way, he has advantage of the man with limited means.
>
> But what will the poor man do if he can not compete with his well-to-do neighbor? Select some one thing that he will push as a specialty, keep that thing growing as he is able, and all the while hold fast to the other side issues and helps that go far toward supporting the family. Do the specialty well, push to the front, and let no one excel you in it, and keep the other things going in good shape, too, even tho limited.

Mr. Aikin is a careful writer and a fair man, but some of his views in the foregoing may bear scrutiny. Because a poor man is not able to compete with the man who has his hundreds of colonies, he is advised to divide his forces and "engage in several lines." If the man with many colonies can do better *because* of his many colonies, will it not be true that the more the poor man has the better he can do? So why divide his forces, unless it be that by so doing he may have something more reliable? And therein lies the gist of the matter. Bee-keeping is an uncertain business—the fact may as well be faced—and the man of limited means dare not safely trust his all to it. But to many it is a very desirable business. Taking together its desirability and its uncertainty, Mr. Aikin's advice is good; at least with a little modification: Do not trust your all to such an uncertain business as bee-keeping, but if you have along with it the business of chopping cord-wood, hold on to the less congenial but more reliable business, at least until you can see your way clear in the other.

"The man with his hundreds of colonies, and selling at a given price, will make more money per colony from his apiaries than will the man with the few," is no doubt true if viewed as Mr. Aikin intended it. But the inexperienced may make a wrong deduction from it. He may say: "I see that an increase of colonies leads to increast profit per colony; so when I have 100 colonies I shall have more than the $5.00 profit per colony that I now have with 10 colonies." He needs to be told what it was not necessary to say to most of Mr. Aikin's readers: "Other things being equal, on a given field, the profit from each of 100 colonies will be much less than the profit per colony from a small number on the same field, notwithstanding the advantages accompanying the larger number. The yield per colony with 10 may be cut in two when the 10 become 100."

Convention Proceedings.

Report of the Proceedings of the 31st Annual Convention of the National Bee-Keepers' Association, held at Chicago, Ill., Aug. 28, 29 and 30, 1900.

BY DR. A. B. MASON, SEC.

(Continued from page 790.)

THIRD DAY—AFTERNOON SESSION.

The convention was called to order by Pres. Root.

The question-box was continued by Mr. Aikin.

UPWARD VENTILATION IN WINTER.

Is upward ventilation in winter a benefit or a detriment to a colony of bees?

Mr. Aikin—I would say it is a benefit.

Dr. Mason—That depends upon the meaning of ventilation, and where that ventilation is to be given, whether in the cellar or outdoors; it is sometimes a benefit and sometimes a damage, so you can't say yes or no

Mr. Aikin—Some of us were having a little contention over at the back of the room, and were in the midst of that discussion when I was brought up here. Mr. Green says he wants the cover sealed down tight. I told him I could take him into the State of Colorado in the winter time and show him chaff hives in which the colony would be wet and moldy, and single wall hives with the cracks open all around the top and bottom, have the colony dry and healthy, and seemingly as prosperous and good as we can have. It is a fact our bees will winter in open hives in Colorado right outdoors better than they will in a close hive or chaff-packt hive. We have just one difficulty, and that is the great amount of exercise—they climb around and consume stores, which naturally comes with a free and open hive in a warm, sunny climate. I say "warm" because, as stated before, it will be zero at night and freezing at midday. It is nothing uncommon for the temperature to change 40 degrees there in a very few hours, but all the time everything is snow and you work there in your shirt sleeves with comfort, or at a temperature that you would be freezing to death with your overcoat on here in Chicago.

Dr. Mason—I winter bees in the cellar with the cover sealed tight, and I don't lose any.

Pres. Root—We do both ways. Some years we get better results with the cover sealed down, and sometimes better with an absorbing cushion for upper ventilation. One winter we concluded the absorbing cushion was just the thing, and the next winter lost very heavily. We can't tell why.

A Member—What ventilation do you give at the bottom?

Pres. Root—Wide open ends, and have ordinarily ⅜ inch.

Dr. Mason—The bottom-board is removed from all our hives when the bees are put in the cellar in November, and the hives are piled on top of each other with a ⅞ inch strip between.

Mr. Rankin—We had an interesting little experiment at the Michigan Station last winter; 15 colonies were used, and they were wintered outdoors inside of chaff wintering cases. Five had the covers sealed on, five with cushions on top of the frames with a cover over it, and five with burlap over the frames and the whole wintering-case packt with chaff, which gave them an absorbing cushion of about four square feet, and the result of the experiment was, those that had the whole top of the wintering-case to breathe in, came thru the winter in a great deal the best condition.

A Member—That was just one test, was it?

Mr. Rankin—Yes.

Mr. Aikin—The gist of the whole matter is this: Keep the colony absolutely dry; ventilating carries off the moisture; keep them dry, and with proper food they will winter in almost any temperature, and in almost any place.

Mr. Green—I don't think that I should want the cover sealed tight unless there was protection. My hives have an outside case with four inches of packing at the sides and eight inches on top, and, with that packing, I don't think bees get damp inside—the hives get damp. I want them covered.

TALL SECTIONS AND THE HONEY MARKET.

What effect will 4x5 sections have on the honey market?

Mr. Aikin—For my part, I don't know that it would have any effect.

Dr. Mason—They have a good effect on some markets.

A Member—But as compared with other sections?

Mr. York—I don't think they have any effect on the Chicago market. Honey in tall sections is worth no more here than in square sections. The honey is no sweeter in one than in the other.

Dr. Mason—I was in a grocery in Toledo the other day, where they had some sections 4x4 and some 4x5, and some parties who wanted some for their own consumption, a section or two, or three, took the 4x5 until they were gone.

Mr. York—Why?

Dr. Mason—They liked the shape, and said there was more honey in them.

A Member—I would like to ask if the 4x5 stood up and down, or flatwise, in the market?

Dr. Mason—Up and down.

A Member—Was it sold by the box?

Dr. Mason—By the single section.

ADOPTING THE SPELLING REFORM.

Is it desirable for our periodicals to adopt reform spelling?

Mr. York—Yes, I think it is.

Dr. Mason—*Yes.*

Mr. Abbott—That depends upon whether they want it or not.

Dr. Mason—It depends upon locality. You take Toledo, O., for instance; I saw there the other day a sign stuck up, "5 cts a pc"—that meant "five cents apiece." A lot of our street-cars have got "Union Dpo," instead of "Union Depot," and it saves lots of printing. I can remember the time when we pronounced it "de-pot," then it got to be "de-po," and then "da-po," and now we have in Toledo "dpo" for "depot," and we know just where we are going; and I say reformed spelling is a *good thing*, and when an editor has to consult all his subscribers to find out whether he should adopt it or not, I think he is wasting his time and money. If he hasn't got mind enough to know what his subscribers want, it is all right to consult them, but he ought to adopt the reform while consulting them.

Mr. Abbott—I ate dinner with one of our members, and as we came to the foot of the stairs coming back, he bought a paper; he lookt at it and said: Well, we buy a paper, we look thru it and don't find anything; we have to wade thru so much." Let us have the reform spelling, it saves us time in this world.

Dr. Mason—I saw some time ago in one of our religious papers a statement to the effect that it was impossible to reform the English spelling, and in the same issue was a quotation of a few verses from an old edition of the Bible, where *f* was used where we now use *s*, and such a way of spelling many words as many of us were familiar with, as would make it quite difficult to understand without paying close attention to the connection. Some of our periodicals are adopting this reform spelling. I say if there is any way by which we can reform our outlandish spelling, and shorten it up in such a common-sense way as is being done by the American Bee Journal, let's adopt it. You know when President Root—

Pres. Root—Don't rub it in, Doctor.

Dr. Mason—I am not rubbing it in; these are the facts in the case. When you took the first vote among the subscribers to Gleanings in Bee Culture, as to whether the reform spelling should be adopted, you got a hundred or more votes which said "yes, adopt it," before one came in against it, then they began to come the other way, and you just went with those that came in last. Some of them did not want it done because it was changing so much, and some threatened to stop taking the paper if it was adopted. This is a changeable world, and we must change if we keep up with the times—have to move or get left. If we can write and leave out many useless and worse than useless letters, and know what it means just as well, why not adopt that method?

Mr. York—I suggest we take a vote on it; how many are in favor of reform spelling and how many are not, just for the fun of the thing.

Pres. Root—All who are in favor of adopting the spelling reform to the extent that the American Bee Journal has done, raise the hand.

All raised their hands in favor, except one lady, who voted against it.

Dr. Mason—May I ask the lady why? If there is a good reason, you may change every one of us, you know.

The Lady—It is probably because I am not as bright as Dr. Mason. I can't see thru it so quickly.

Dr. Mason—Practice is all that is needed.

FEEDING FOR WINTER STORES.

What is the best way to feed bees for winter stores, and when?"

Mr. Aikin—The best way to feed them is during the honey-flow, if you can. If there is no honey-flow, I don't know. I don't want to answer that question.

Jacob Hoffman—Feed them in time so they get it sealed over before cold weather.

Mr. Aikin—Here is another question that goes along with it: "How much food is required for average colonies?" In my locality, we would want 40 pounds for an average colony; in some other places, 20 pounds would do.

W. L. Coggshall—How many pounds of honey do you think necessary for the bees over winter?

Mr. Aikin—Thirty pounds will do, 35 would be better, and 40 would be better yet. Bees "cut a garment according to their cloth." If they have plenty of honey, they breed up nicely; if they haven't they won't.

Dr. Mason—How many pounds is required for an average colony?

Mr. Aikin—That depends upon where you winter them, whether in the cellar or some other place, or outdoors.

Dr. Mason—I winter mine in the cellar. I like to have them have a good lot; they will average about 10 pounds while in the cellar.

R. L. Taylor—It makes quite a difference in the quality. They will use twice as much poor honey as good.

Mr. Fixter—It takes so much less to winter in the cellar, why not winter in the cellar altogether?

A Member—I askt that question. We have about 40 colonies at home that will all have to be fed. They are very strong colonies, and I would like to know the best way and how to feed them, and how much sugar is required to winter in the cellar?

Mr. Aikin—Does your question intend to cover the time from now practically until new honey, next spring?

A Member—Certainly, from fall until spring.

Mr. Taylor—Do you put your bees in the cellar and feed them granulated sugar?

A Member—Yes, sir. I want to know how much from now until they will gather honey in the spring.

Mr. Taylor—If he puts his bees in the cellar, he can be very sure that if he feeds ten pounds of granulated sugar per colony, they will all be alive so far as stores are concerned when he takes them out in the spring. Of course, if they don't get much honey until the middle of June, they will want more than that.

Mr. Fixter—It makes a difference what kind of a cellar you winter the bees in. Some cellars require a great deal more honey for bees than others.

Mr. Taylor—If the temperature is about the same, I don't see why it should make much difference. If your cellar is very damp, the temperature ought to be a little higher than when it is very dry.

Mr. Aikin—I realize that there is a great deal of misunderstanding in regard to this matter, and we can not take the time of the convention to go fully into details; but get this one fact into your mind, that it is wise always to have an abundance of stores for your colonies better that there be 10, 20 or 30 pounds more than they use than half a pound less than they need; and simply to give the colony enough now to last them until the first day of next March, might not be at all a wise policy. I would want my colonies to have enough in the fall to be sure that they got clear thru in the spring when they can go out and forage if there is anything to feed upon; because a colony that is wintered with barely enough stores to carry it thru until spring when you think you can feed them safely, is almost sure to come thru in a poor condition, and you will never be able to calculate what you have lost by them coming thru in that semi-starved condition. I am well satisfied that with 10 or 15 pounds more stores they might make you all the difference between a very handsome profit and a very serious loss in that colony for its season's work.

A Member—Would it be best to feed at the entrance or in the hive?

Mr. Aikin—That part of the matter I have never experimented with.

D. H. Coggshall—I know how some feed. I never had occasion to feed much. Take a colander and put the combs on the under side of it and turn the honey and let it drop from a short distance; that drops the honey into the combs; hang them up, let the honey drip off, then put those in hives; put these combs below, and the bees will put it above.

Mr. Aikin—It is best to have the colony store it as solidly as possible in the combs, and not scatter it thru a whole lot of combs. Four combs solidly packt with stores is far better for the colony to winter on than eight combs with the same stores scattered thru eight combs.

Continued next week.)

Contributed Articles.

No. 9.—Interesting Notes on European Travel.

BY C. P. DADANT.

HERE we are, at Paris, the city of arts, the city of fashion, the leader in a thousand things, the capital of the world. But if I should try to detail my stay in Paris, and the sights we saw, I should make the editor and the readers weary of my prose.

We arrived at midnight, and it lookt as if it might have been noon, for the boulevards were as busy, the crowds were as thick, on the sidewalks, in the cafes, in the restaurants, as at midday. They had just emerged from the theatres, and before these people were ready to go to bed, the market gardeners and hucksters would in their turn come forth to prepare for another busy day. That city never sleeps.

Two or three readers of the American Bee Journal have askt me to give my impressions of the Paris Exposition as compared with the World's Fair at Chicago. I think I can repeat what I have heard other Americans say: The French exposition is more artistic, the details are better finisht, the buildings more elegantly decorated, than at Chicago, but our World's Fair was on a much greater scale. Not only were the buildings larger, but there were more of them. We had some 40 States of our own from which to draw, outside of the foreign element. The buildings were situated far enough apart to give a fine view from all sides. The lagoons, the avenues, the Court of Honor, and that beautiful lake could not be replaced by any of the beauties of Paris. The view of the "White City" from the steamboat on Lake Michigan was a sight which will be hard to match anywhere.

On the other hand, we must acknowledge that we have the fault of making things too "rough and ready," and not taking pains enough in the finish. In that Court of Honor, I remember seeing holes in the columns, where scaffolding had been taken off, and the woodwork was showing under the plaster, thus effacing the "marble finish" impression, and taking away the admiration which the artistic work should have left. No such defects were to be seen at Paris, and each and every detail was finisht up as if all that architecture was to remain for centuries. But the lack of space had compelled the building of these works of art in too small a compass. The finest views were to be had from the Seine, or from the Eiffel Tower.

The apiarian exhibits were scattered over a great deal of ground. This is because each country had a special exhibit, in which all its products were gathered, while there was also a general exhibit for each special industry. If I am not mistaken, the different exhibits of America were scattered in some 35 different spots. But the American exhibit of apiculture was confined to three manufacturers as far as I could find—The A.I.Root Co., The W.T.Falconer Mfg. Co., and our own firm. It consisted solely of apiarian implements, sections, foundation, a few smokers, an extractor or two, and some hives—no honey, no beeswax! No individual or collective exhibit of the products of the bee!

It is true that these exhibits had been considered worthy, for they were each rewarded with a medal, and the few goods that were there were certainly superior to what they have in Europe, so much so that I wondered whether the people who saw them would realize that they were only fair samples of what is made in America, for the mechanical finish of what they use in bee-culture is very inferior. But, nevertheless, I felt that we were outdone by Canada, for they exhibited, in their own building, a stack of the finest honey that it is possible to see. This was evidently under the auspices of the Ontario Bee-Keepers' Association, and intended to show to the world what Canada could do. But the names and addresses of the producers were attacht to all the samples. They may be less practical than we are, individually, but they take more pains, collectively, to bring their products forward.

Yet the United States is rich enough and successful enough to make the finest exhibit that can be made in the bee line. Just think of California, Arizona, Colorado, Utah, uniting with New York, Ohio, Michigan, Illinois, Wisconsin, and other States, to make a honey exhibit! What a grand display we could have! And are we not in honor bound to do something of this kind for the next International Fair, wherever it may be held, but especially if outside of our land? This should not be left to individual enterprise, but each State and local association should take pride in sending samples of the products of its members labeled with the producer's name, under the supervision of the National Association. Thus we may hold our rank with any other country in an international exhibit. If there was a single pound of United States honey on exhibition at Paris, I neither saw it nor heard of its being there.

The main apiarian exhibit consisted of a number of hives of all styles and shapes, under the control of the French Association, in an open-air annex, close to the main building of the Champ De Mars. The best of this exhibit was from Mr. Gariel, of Paris, who showed a very nice assortment of practical apiarian supplies. One exhibitor of a newly invented hive, guaranteed returns of 50 percent annually, on the money invested, to purchasers of his invention. The quacks are not all in America.

One thing astonishes me. It is the number of honey-presses exhibited side by side with honey-extractors. This comes from the persistent use of the straw skep which is well represented here, in all sorts of shapes. Owners of bees in straw hives have no use for an extractor. Stopping a few minutes to hear the remarks of passing visitors, I find that the bee-keepers there do not know anything about the extractor, while the press seems familiar to them. A little farther on, I notice a coarse wooden dish hinged on a lid which seems to be made to fit inside of it and is attacht to a long lever. It is labeled "Honey-press of the eleventh century." It looks old enough, indeed.

But the French honey exhibit was a very fine display. This exhibit located in Class 42, contains show-cases from eight or ten local associations, besides personal displays from a number of honey-producers. Here we see American section-boxes, filled with French honey. The exhibits are tastefully arranged, and two or three gold medals show that the jury was appreciative. A number of the largest exhibitors show the pains taken with the bees, by exhibits of comb honey in the shape of words, diagrams, circles, etc. In the main exhibit, Mr. Duviquet has represented the words, "Societe Centrale D'Apiculture," in letters 16 to 18 inches in length, made of comb honey. E. Moret takes a gold medal with the finest honey display, some of which is evidently from previous years, and we are told that this honey has already taken the medal at other exhibitions. Here also Mr. Gariel has a fine exhibit and a gold medal.

The products made with honey, or partly from honey, are numerous, especially honey-cakes, gingerbread, metheglin, both sweet and dry, and especially honey chocolate. It would appear that chocolate sweetened with honey is making its way freely in France, altho the manufactur of his article is a recent I tasted of it and found it txcellent.

Another bee-exhibit, I was told, was to be found at the Vincennes annex, where they said American machinery took a very prominent position, in all sorts of industries, but I had no opportunity to go to Vincennes, which is quite distant from the Exposition grounds. Was there not enough to see right there? We went many times, but could not hope to see it all. And, besides, there was enough to see in Paris outside of the Exposition, even in the Louvre alone, to occupy the two short weeks we had to stay.

Here, as in every other place we visited, business acquaintances or friends of my young days whom I happened to meet proved most hospitable. We thought ourselves total strangers in Paris, but found one cousin, one former schoolmate of mine, and last, but not least, our business correspondent in Paris, Mr. Gariel, whom I have mentioned as having so fine an exhibit, and whom we found to be one of the pleasantest and most hospitable of men. He directed us to a good lodging, invited us several times to dine and spend the evening with his pleasant family, showed us thru the exposition grounds, and accompanied us to Versailles on the Sunday following our arrival. There he proved to us that a Parisian of small stature could outwalk a resident of Illinois, for he kept me a-going from noon until about six o'clock, with scarcely a minute's rest, thru the immense park of the old kings of France. We tried to see, in that short time, what could not be seen in detail by a two weeks' stay, and I have in my memory a medley of beautiful groves, grand avenues, gardens, marble statues, fountains, palaces without end, thru throngs of visitors who came as we did, in the two-story excursion trains, to "do" Versailles in a half day.

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Early Drones—How to Get Them.

BY JESSE M. DONALDSON.

BREEDING queens for quality is fast superseding the old craze of breeding for color. Almost all bee-keepers will agree that it is a move in the right direction. Several breeders are offering for sale queens of superior strains. No doubt many of these queens possess all the good qualities claimed for them, but even with one of those good queens for a breeder, our progress will be very slow if we allow her queen progeny to mate with common or inferior drones.

If we could secure the mating of queens in confinement, all would be easy sailing, but, as all bee-keepers know, repeated trials have proved that to be one of the impossibilities of bee-keeping.

But we can lessen the chances of our queens mating with poor drones, by not allowing them to be reared in our yards, and encouraging drone-rearing only in colonies that show good qualities. These drones should be in the fields early in the season.

I have experimented on these lines till I have workt out a plan by which I get good drones much earlier than I would if I allowed the bees to take their own time about it. Of course, it means some extra work, or, as some would call it, "fussing," but in the long run I find that it pays.

Before giving my plan, I will say that I use the eight-frame dovetail hive, and a winter-case high enough to admit an Ideal super, which I fill with planer-shavings.

When preparing the bees for winter, all drone-comb is removed from the colonies that I do not want drones from. I then select the ones that I intend using for drone-rearing; for this purpose I prefer colonies with queens at least one year old. In the center of these colonies I place two or three frames that have previously been prepared by removing the drone-comb from the corners, and replacing it with worker-comb, and grafting a small piece of drone-comb in the center. We now have our drone-cells in the center of the hive, just where the queen begins laying. I now make sure that these prepared colonies have plenty of stores for winter, which ends my work with them till spring.

When spring comes, I crowd the bees on just the number of frames that they can cover, and place the extra frames outside of the division-boards. The enameled-cloth is now placed on the frames, and over it the super filled with planer-shavings. An extra rim is now placed on the winter-case, which gives it a slope from north to south. Instead of the regular winter cover, I now use one made of glass.

As soon as these colonies can take care of it more brood is added; of course this brood is drawn from some colony that can spare it. When the hives are filled with brood, a little warm syrup should be fed every night. The drone-comb that was placed in the center of the hives will soon be filled with brood, which should be given to other colonies just before it hatches, and the space filled with other frames containing drone-comb.

By not allowing any drones to hatch in these colonies, we keep up their desire for drones.

When the brood hatches in the frames that were placed in other colonies, they should be returned to the drone-rearing colonies, or placed in an upper story over a queen-excluder. If they should remain any length of time after the brood hatcht, we would only be encouraging the bees to rear the very kind of drones that we are trying to suppress.

Altho this plan may seem somewhat fussy, I am confident that the results will pay for the little extra work, especially where one is trying to improve his stock.

Worcester Co., Mass.

Report for the Season of 1900—Bee-Forage.

BY WM. STOLLEY.

THE year of 1899 was (as previously reported) a very poor year for bees in central Nebraska. From September 15th to October 1st, I had to feed over 1,000 pounds of honey and sugar syrup mixt, to provide ample winter stores for my 30 colonies of bees, in double-walled hives, on the summer stands in my open bee-shed. All wintered well, as usual.

During the winter of 1899 and 1900, bees flew freely—three days in December, 14 in January, two in February, and 16 in March. Of zero days we had—three in January, six in February, and one in March. The lowest point of temperature reacht was 14 degrees, Fahr., below zero, January 30, 1900. I lost three old queens in wintering, sold one fine colony for $10, and also a few choice queens for $1.50 each, in early spring; and by uniting all queenless colonies thus made, with the weaker ones, I had 20 colonies left, all very strong, by the middle of June, when sweet clover began to bloom—this season being about two weeks early.

March 11th, soft maple began to bloom, and bees workt on them on and off, up to March 22d.

Next followed the buffalo-berries, which are, if plentiful, a veritable boon to bees in early spring. The buffalo-berry bloom lasts for 10 to 15 days, and is closely followed by elm, box-elder, willows, cedar, cottonwood, and matrimony-vine, in the order named, when, at the end of June, fruit-bloom follows. By the middle of May raspberries, black walnuts, spider-lilies, black locust, honey-locust and wild grapes are in season, up to about June 1st.

The month of June, and until sweet clover began blooming, always used to be a time of want for my bees, and they invariably drifted backwards, unless fed promptly, until of late years, when I was successful in getting motherwort and white clover to grow in such quantities, that this annoying scarcity of bee-forage was bridged over. I now have sufficient motherwort growing in the immediate vicinity of my apiary to employ my bees fully, and thus keep brood-rearing going on without interruption. This plant (motherwort) blooms about four weeks and is, as far as my experience goes, always to be depended upon. Bee-keepers, whose localities, like my own, are not well supplied with bee-forage in the month of June, should not neglect sowing the seed of this valuable honey-yielder, together with catnip, on all vacant and suitable places, in sufficient quantities to meet the requirements. (I have no seed for sale.) They will, if they follow my advice, be well rewarded for so doing.

Alfalfa would answer the same purpose, and is even better if it were not generally cut down just about the time when it begins to yield nectar. Some 15 years ago I first started an alfalfa-field of about eight acres here, but it took more than 10 years before other farmers in the neighborhood followed suit; but now this section of the country is dotted all over with large tracts sown to alfalfa, of which some fields every year are likely to remain uncut long enough to become of great utility to my bees.

As soon as sweet clover begins to bloom, my bees are all right all around. I have the satisfaction of reporting that within 1½ miles of my apiary, a young, progressive farmer, who used to be very much opposed to sweet clover, gathered the seed of it along the roadsides, and put ten acres solid into sweet clover, for pasturing his sheep, after he learned to appreciate the true value of this plant, by herding his flock of sheep on the country roads.

Sweet clover so herded off by sheep, throws out numerous small branches close to the ground, which are white with bloom late in the season.

Of course, some of the old fellows whose minds are set in opposition to sweet clover, persist in condemning it. They are the old Israelites, who are destined to die in the wilderness—surrounded, however, by lots of sweet clover, notwithstanding their foolish opposition to it.

Now, as to the result of this summer's work in my little apiary: I obtained 1123 pounds of the very best of extracted white honey from 20 colonies of bees (spring count); hence, about 56 pounds per colony on an average, besides plenty and to spare for winter-stores, without resorting to feeding for winter.

This result is quite satisfactory to me, inasmuch as the season, take it all around, was anything but normal. Excessive drouth in midsummer, together with damaging hail, curtailed my honeycrop greatly.

Besides my crop of surplus honey, I have increast the number of my colonies from 20 to 30, by the nucleus plan. While I bought five queens, for the purpose of infusing new blood, I have reared 14 choice queens myself from my very best stock.

I had but two swarms from the 20 colonies, and they were hived back on the old stands.

For the last two years I have had no fall honey from wild bloom, owing, I suppose, to the drouth we have had; while in former years from August 15th to the end of the season I got nothing but dark and rather rank honey, equal in quantity to the crop of white honey obtained in the fore-part of the summer. But this year, clear up to September 29th, when I extracted the last, the honey remained the same excellent quality.

October 12th, all my bees in the open shed were packt for winter. Yesterday (November 19th), we had the first light snow.

I would like to say something about the introduction of queens, and some other matters pertaining to the successful management and working of bees, but I think that the foregoing is rather too lengthy already, so I suppose I would better stop.

Hall Co., Neb.

[Why not send us several articles on the subjects you mention in your last paragraph, Mr. Stolley? We are very certain they would be eagerly read, and also prove profitable.—EDITOR.]

"The Hum of the Bees in the Apple-Tree Bloom" is the name of the finest bee-keeper's song—words by Hon. Eugene Secor and music by Dr. C. C. Miller. This is thought by some to be the best bee-song yet written by Mr. Secor and Dr. Miller. It is, indeed, a "hummer." We can furnish a single copy of it postpaid, for 10 cents, or 3 copies for 25 cents. Or, we will mail a half-dozen copies of it for sending us *one new* yearly subscription to the American Bee Journal at $1.00.

The Chicago Convention Picture is a fine one. It is nearly 8x10 inches in size, mounted on heavy cardboard 10x12 inches. It is, we believe, the largest group of bee-keepers ever taken in one picture. It is sent, postpaid, for 75 cents; or we can send the American Bee Journal one year and the picture—both for $1.60. It would be a nice picture to frame. We have not counted them, but think there are nearly 200 bee-keepers shown.

Our Wood Binder (or Holder) is made to take all the copies of the American Bee Journal for a year. It is sent by mail for 20 cents. Full directions accompany. The Bee Journals can be inserted as soon as they are received, and thus preserved for future reference. Upon receipt of $1.00 for your Bee Journal subscription *a full year in advance*, we will mail you a Wood Binder free—if you will mention it.

Please send us Names of Bee-Keepers who do not now get the American Bee Journal, and we will send them sample copies. Then you can very likely afterward get their subscriptions, for which work we offer valuable premiums in nearly every number of this journal. You can aid much by sending in the names and addresses when writing us on other matters.

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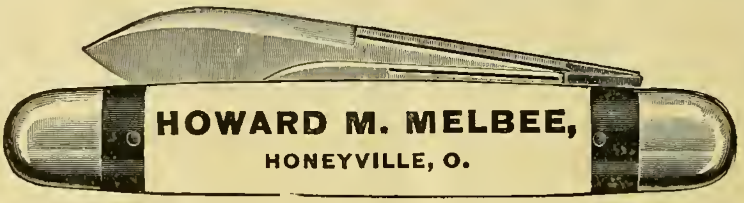

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We know you won't buy it, until you know something about it. The best way to get you to know how good it is, is to let you try it. That's what we do. Send Stamp for "Health" booklet, and we will send you a free sample package, that you may try it yourself. We know you will always keep it in the house, if you once try it. What fairer offer could we make? At all Druggists—10 and 25 cents.

Handsome Stick Pin FREE!

If, instead of sending for a sample, you send us 25c we will send you "Health" booklet, a 25c box and a handsome gold stick-pin, set with emerald, ruby or pearl, warranted to be worth double the money. Order by number. This is an extra introductory offer. Only one pin to one person. If unsatisfactory, money returned. Send now while the offer is good.

MODERN REMEDY COMPANY, KEWANEE, ILLINOIS.

[This company will do exactly as it promises.—Editors.]

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SPECIAL NOTICE!

Last winter's cut of basswood is the whitest it has been for many seasons. We are now making sections out of this new stock and therefore are in a position to furnish you with the very finest quality in the market.

LEWIS WHITE-POLISHT SECTIONS

Are perfect in workmanship and color.

Orders shipt immediately upon receipt. A complete line of everything needed in the apiary. Five different styles of Bee-Hives.

Lewis Foundation Fastener simplest and best machine for the purpose. Price, ONE DOLLAR, without Lamp.

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E. T. Abbott, St. Joseph, Missouri.
Special Southwestern Agent.

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Best on Earth

What? Our New **Champion Winter-Cases.** And to introduce them thruout the United States and Canada we will sell them at a liberal discount until Oct. 15, 1900. Send for quotations. We are also headquarters for the No-Drip Shipping-Cases.

R. H. SCHMIDT & CO.
Sheboygan, Wisconsin.

FOR SALE!

Best Extracted Alfalfa Honey

Guaranteed absolutely Pure Bees' Honey. Packt in 5-gallon tin cans, of about 60 pounds each, two cans to the case, 7½ cents per pound, cash with order. Buy direct from the home of Alfalfa. We can please you. Headquarters for ALFALFA and SWEET CLOVER SEED. Write for prices. **Vogeler-Wiedemann Co.,** 60-62 W. First So. St., Salt Lake City, Utah.

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TO LAST TEN YEARS

without repairs. We warrant our **Cyphers Incubators** to do that and guarantee them as follows—to require no supplied moisture; to be self-ventilating and regulating; to operate with less oil and expense; to be fire proof; easiest to operate; to produce stronger chicks; to out-hatch any other machine or money refunded. Circulars and prices free. 192 page book, "Profitable Poultry Keeping," 200 new illustrations for 10c stamps. Ask for book 50 Address nearest office.

SELF SUPPLIED MOISTURE. SELF-REGULATING SELF-VENTILATING

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200-Egg Incubator for $12.00

Perfect in construction and action. Hatches every fertile egg. Write for catalogue to-day.
GEO. H. STAHL, Quincy, Ill.

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Bee-Hives and Honey-Boxes

in car lots, wholesale or retail. Now is the time to get prices. We are the people who manufacture strictly first-class goods and sell them at prices that defy competition. Write us to-day.

Inter-State Box and Manufacturing Company,
HUDSON, WIS.

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TOUR OF ALL MEXICO

in Pullman's finest Compartment Drawing Room, Library, Observation and Dining Cars—all Vestibuled—with the celebrated

OPEN-TOP CAR "CHILILITLI"

for Observation in the Mountains and Canons, and Dining Car in the Tropics.

A delightful trip of 38 days with **Three Circle Tours in the Tropics** of the South of Mexico and a **Visit to the Ruined Cities.**

All exclusive features of these itineraries of leisurely travel and long stops—The Special Train starts Tuesday, Jan. 22, from Chicago.

TOUR OF PUERTO RICO.

Special Pullman Cars leave Chicago **Thursday, Jan. 17,** and **Thursday, Feb. 14,** at 9:30 a.m., connecting with the splendid new steamships Ponce and San Juan, sailing from New York the second day following. Individual tickets sold for other sailing dates, alternate Saturdays.

TICKETS INCLUDE ALL EXPENSES EVERYWHERE

These select limited parties will be under the special escort and management of The American Tourist Association, Reau Campbell, General Manager, 1423 Marquette Building, Chicago.

Itineraries, Maps and Tickets can be had on application to Agents of the Chicago, Milwaukee & St. Paul R'y.

WE MAKE INCUBATORS

that hatch strong, healthy chicks and lots of them. Our faith in these facts is such that we send you our

NEW PREMIER Incubator ON TRIAL

You put the eggs in it and make a hatch for yourself. When you have tried it thoroughly and are satisfied, you pay us for it. Isn't that the sensible way to buy and sell incubators? Send 5c stamp for Catalog & "Poultry Helps."

We are also sole makers of Simplicity Incubator.

COLUMBIA INCUBATOR CO., 5 Water St., Delaware City, Del.

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The Best Dishorner.

The easiest on both operator and cow, because it makes the smoothest, quickest cut is the

CONVEX DISHORNER.

My Bucker Stock Holder and calf dishorners are equally good. All dishorning appliances.

Illustrated Book Free.

Geo. Websler, Box 123, Christiana, Pa.
Western trade supplied from Chicago.

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must be simple in operation, sure in results. That's the

SURE HATCH INCUBATOR.

anybody can run it, because it runs itself. Send for our free catalog and see for yourself how very successful it has been on the farm. It also describes our Common Sense Folding Brooder. We Pay the Freight.

SURE HATCH INCUBATOR CO., Clay Center, Nebraska.

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326 FIRST PREMIUMS

SEND FOR FREE CATALOGUE.

Prairie State Incubator Co.
Homer City, Pa.

47A17t Please mention the Bee Journal.

ness was ruined. I kept smelling an awful stench around certain hives, but thought it was a dead rat. It became so bad that finally investigated, and upon taking off the super and cover I found one colony almost rotten. I at once destroyed *everything*, and sent a sample of the comb to a very prominent bee-keeper and publisher, asking his advice, and what it was. His reply was very unsatisfactory. He said it was not foul brood, he didn't think it was black brood, but it was probably pickled brood, and I would better send a sample to Dr. Howard. I can't help thinking he knew what it was, as it certainly was a decided case of some disease, and how could I send to Dr. Howard when I had burned everything?

R. N. Crofton.

Cherokee Nation, Ind. Ter., Dec. 2.

Bees Did Well—Prospects Good.

My bees have done well this year: I have taken off 1,200 pounds of surplus honey, and the prospect for their wintering well is good.

Navajo Co., Ariz., Dec. 3. J. A. Lewis.

Light in Winter Stores.

I got 500 pounds of comb honey the past season from 16 colonies, spring count, and increast to 20. They are in the cellar in good condition. Bee-men in this county complain that their bees are going into winter quarters very light.

John Cline.

Lafayette Co., Wis.

A Poor Year for Honey.

This was a poor year for honey, altho my bees did better than my neighbors'. I secured 2,000 pounds of honey, 400 of which was extracted. I have 93 colonies in winter quarters, in good condition.

I am much pleased with the Danzenbaker hive, as I have had less unfinisht sections with it than with the others, and only one swarm. I think it the best hive for comb honey.

G. W. Bell.

Clearfield Co., Pa., Dec. 7.

Report for the Past Season.

I started last spring with 20 colonies, increast to 34, and secured 800 pounds of comb honey, which I sold at 12 cents per pound.

The Bee Journal is all right.

Andy Scrimger.

Floyd Co., Iowa, Dec. 8.

Not Half a Honey Crop.

Bees did very poorly in this part of Ontario last season, not half a crop being secured. There was no basswood flow, which is very often our mainstay.

I think so much of the "Old Reliable" that it is a pleasure for me to introduce it; I could not get along without its weekly visits.

Ontario, Canada, Dec. 11. Wm. Aiken.

A Change in the Atmosphere.

I have 26 colonies packt well on the summer stands. The dry weather last May killed the white clover, and that was our main source for honey. The fall crop of heartsease in the bottomlands was good for winter stores. The bees in the uplands are mostly in a starving condition.

It seems that there is a decided change in the atmosphere in this part of the country in comparison with what it used to be. At times the bloom is, to all appearance, perfect, and there is plenty of it, but the bees pass it by. I have come to the conclusion that however large the crop of bloom, there will be no nectar if the atmosphere is not just right to produce it. Consequently tile-draining, clearing the land, and other like improvements have brought this peculiar condition about, and we will have to look to something besides bees in this locality for a livelihood. But we will trust that next season will be a good one, and will keep on reading the "Old Reliable" and do the best we can, and let the bees do the rest. P. W. GREGOR.

Wayne Co., Ohio, Dec. 10.

Rocky Mountain Bee-Plant Seed!

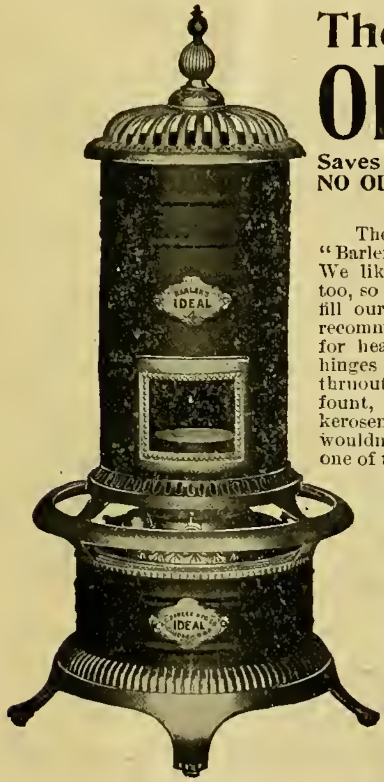
(*Cleome integrifolia.*)

...FREE AS A PREMIUM...

The A B C of Bee-Culture says of it: "This is a beautiful plant for the flower-garden, to say nothing of the honey it produces. It grows from two to three feet in hight and bears large, clusters of bright pink flowers. It grows naturally on the Rocky Mountains, and in Colorado, where it is said to furnish large quantities of honey."

We have a few pounds of this Cleome seed, and offer to mail a ¼-pound package as a premium for sending us ONE NEW subscriber to the American Bee Journal, with $1.00; or ¼ pound by mail for 40 cents.

GEORGE W. YORK & CO.
118 Michigan St. CHICAGO, ILL.



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The "Barler Ideal"

OIL=HEATER....

Saves Its Cost Every Year!
NO ODOR! NO SMOKE! NO ASHES!

Costs only a cent an hour to run it.

The editor of the American Bee Journal is using the "Barler Ideal" Oil Heater, and it is all right in every way. We liked it so well that we wanted our readers to have it too, so we have recently arranged with its manufacturers to fill our orders. The picture shown herewith is the one we recommend for general use. It is a perfect gem of a stove for heating dining-rooms, bed-rooms, and bath-rooms. It hinges back in a substantial way, and is thoroly well made thruout. The urn removes for heating water. The brass fount, or well, has a bail, and holds nearly one gallon of kerosene oil. It is just as safe as an ordinary lamp. You wouldn't be without it for twice its cost, after once having one of these stoves. Most oil-stoves emit an offensive odor, but this one doesn't. Its hight is 2½ feet, and weighs 20 pounds, or 30 pounds crated ready for shipment, either by freight or express.

Price, f.o.b. Chicago, **$6.00**; or, **combined with a year's subscription** to the American Bee Journal—**both for only $6.50.** FULL DIRECTIONS GO WITH EACH STOVE.

If you want something that is really serviceable, reliable, and thoroly comfortable, you should get this "Barler Ideal" Oil Stove, as it can easily be carried by any woman from one room to another, and thus have all the heat you want right where you want it.

Address,

GEORGE W. YORK & CO.,
118 Michigan St., Chicago, Ill.

The Ohio Farmer

—AND THE—

American Bee Journal,

Both One Year for only $1.40.

THE OHIO FARMER is clearly one of the leaders of the agricultural papers of this country. It is a 20-page weekly, often 24 pages, handsomely printed on good paper, and **CLEAN** in both reading and advertising columns. It has the largest actual staff of editors and correspondents (all farmers) of any farm paper publisht, and is practically progressive in defending the farmer's interests.

IT WILL HELP YOU MAKE "THE FARM PAY." Send to OHIO FARMER, Cleveland, Ohio, for a free sample copy.

REMEMBER, we send both the Ohio Farmer and the American Bee Journal, both one year for only $1.40. Address,

GEORGE W. YORK & CO., 118 MICHIGAN STREET, CHICAGO, ILL.

HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Dec. 21.—The demand has fallen off very much of late, but prices have not declined to any great degree from those prevailing for the past 60 days, but any pressure to sell would cause a decline. Fancy white comb, 16c; No 1, 15c; amber and travel-stained white, 13@14c; dark and buckwheat, 10@11c. Extracted, white, 7½@8c; amber, 7@7¼c; buckwheat and other dark grades, 6@6½c. Beeswax, 28c.
R. A. BURNETT & CO.

KANSAS CITY, Dec. 6.—Fancy white comb, 16@16½c; choice, 15c; light amber, 13½@14c; dark, 10c. Extracted, 7½@8c. Beeswax, 22@28c. Receipts very light; demand good.
W. R. CROMWELL PRODUCE CO.,
Successors to C. C. Clemons & Co.

BUFFALO, Dec. 20.—Honey continues to drag at quotations. Holiday business kills every thing, almost, but presents. Fancy 1-pound comb, 15@16c; common, 10@14c, as to grade. No extracted wanted. BATTERSON & CO.

ALBANY, N.Y., Dec. 6.—Fancy white, 17@18c; No.1, 16@17c; No. 2, 14@15c; mixt, 13@14c; buckwheat, 12½@13½c. Extracted, white, 8@8½c; mixt, 7@7½c.

The honey market is steady with light receipts and good, stiff prices. Extracted, market quiet and but little movement. Will be more demand later on. H. R. WRIGHT.

BOSTON, Dec. 7.—Our market on honey continues strong, with light receipts. Fancy one-pound cartons, 17c; A No. 1, 15@16c; No. 1, 15c; No. 2, 12@13c. Extracted from 7½@8½ cents, according to quality. Beeswax steady at 25@27c.
BLAKE, SCOTT & LEE.

CINCINNATI, Sept. 21.—The demand for fancy comb honey is good and finds ready sale at 16@16½c; No. 1, 15c. The demand for extracted honey at present is slow and offer same by the barrel as follows: White clover, 8½@9c; Southern, 6½@7½c; Florida, 7@8 cents, according to quality. Beeswax, 27c.

The above are MY SELLING PRICES. I do not handle any honey on commission, but pay spot cash on delivery. C. H. W. WEBER.

NEW YORK, Nov. 20.—Good demand continues for all grades of comb honey. We quote: Fancy white, 15@16c; No. 1 white, 14c; No. 2 white 12@13c; amber, 12c; buckwheat, 10@11c. Extracted in fairly good demand at 7½@8c for white, and 7c for amber; off grades and Southern in barrels at from 65@75c per gallon, according to quality. Not much demand for extracted buckwheat as yet. Some little selling at 5½@6c. Beeswax firm at 28 cents.
HILDRETH & SEGELKEN.

DETROIT, Dec. 10—Fancy white comb, 15@16c; No. 1, 13@14c; dark and amber, 10@12c. Extracted, white, 8@8½c; amber and dark, 6@7c. Beeswax, 26@28c. M. H. HUNT & SON.

SAN FRANCISCO, Dec. 5.—White comb, 13@14 cents; amber, 11½@12½c; dark, 8@9c. Extracted, white, 7½@8c; light amber, 6¾@7¼c; amber, 5½@6½c. Beeswax, 26@28c.

There is no opportunity for much activity in this article, spot stocks being of such slim proportions as to admit of little other than a light jobbing trade. Market has a firm tone, with prospect of values being maintained at current range thruout the season.

A HONEY MARKET.—Don't think that your crop is too large or too small to interest us. We have bought and sold five carloads already this season, and want more. We pay spot cash. Address, giving quality, quantity and price,
THOS. C. STANLEY & SON, Fairfield, Ill.
Please mention Bee Journal when writing.

—DO YOU WANT A—
High Grade of Italian Queens
OR A CHOICE STRAWBERRY?
Send for descriptive price-list.
D. J. BLOCHER, Pearl City, Ill.
47A26t Mention the American Bee Journal.

BEES QUEENS
Smokers, Sections,
Comb Foundation
And all Apiarian Supplies
cheap. Send for
FREE Catalogue. E. T. FLANAGAN, Belleville, Ill.
Please mention Bee Journal when writing.

We have a Large Stock on hand and can ship promptly.

SEND US YOUR ORDERS FOR

Hives, Extractors

OR ANYTHING YOU WANT IN THE BEE-KEEPING LINE.

WE MAKE ONLY THE BEST.

Our Falcon Sections and New Process Foundation are ahead of everything, and cost no more than other makes. New Catalog and copy of THE AMERICAN BEE-KEEPER free. Address,

THE W. T. FALCONER MFG. CO.,
JAMESTOWN, N. Y.

☞ W. M. GERRISH, East Notingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.

PATENT WIRED COMB FOUNDATION

Has no Sag in Brood-Frames.

Thin Flat-Bottom Foundation

Has no Fishbone in the Surplus Honey.

Being the cleanest is usually workt the quickest of any foundation made.

J. A. VAN DEUSEN,
Sole Manufacturer,
Sprout Brook, Montgomery Co., N.Y.

Please mention Bee Journal when writing.

SWEET CLOVER

And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white)	60c	$1.00	$2.25	$4.00
Sweet Clover (yellow)	$1.50	2.80	6.25	12.00
Crimson Clover	70c	1.20	2.75	5.00
Alsike Clover	90c	1.70	3.75	7.00
White Clover	90c	1.70	3.75	6.50
Alfalfa Clover	80c	1.40	3.25	6.00

Prices subject to market changes.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

GEORGE W. YORK & CO.
118 Michigan Street, - CHICAGO, ILL.

☞ IF YOU WANT THE

BEE-BOOK

That covers the whole Apicultural Field more completely than any other publisht, send $1.25 to Prof. A. J. Cook, Claremont, Calif., for his

Bee-Keepers' Guide.

Liberal Discounts to the Trade.

FALL SPECIALTIES

Shipping-Cases, Root's No-Drip; Five-Gallon Cans for extracted honey, Danz. Cartons for comb honey. Cash or trade for beeswax. Send for catalog. M. H. HUNT & SON, Bell Branch, Mich.

Please mention Bee Journal when writing.

REDUCED RATES FOR CHRISTMAS AND NEW YEAR HOLIDAYS.

The Nickel Plate Road will sell tickets Dec. 22 to 25, inclusive, Dec. 31, 1900, and Jan. 1, 1901, at rate of a fare and a third for the round trip, to any point located in Central Passenger Association territory, good returning to and including Jan. 2, 1901. Vestibuled sleeping-cars. Individual club meals, ranging in price from 35 cents to $1.00, served in dining-cars. Address, John Y. Calahan, General Agent, 111 Adams St., Chicago, for particulars. Depot, Van Buren St. and Pacific Ave., on the Elevated Loop. (42)

23rd Year **Dadant's Foundation.** 23rd Year

We guarantee satisfaction. ❊❊

What more can anybody do? BEAUTY, PURITY, FIRMNESS, No SAGGING, No LOSS.
PATENT WEED-PROCESS SHEETING.

Why does it sell so well? ❊❊

Because it has always given better satisfaction than any other.
Because in 23 years there have not been any complaints, but thousands of compliments.

Send name for our Catalog, Samples of Foundation and Veil Material. We sell the best Veils, cotton or silk.

BEE-KEEPERS' SUPPLIES OF ALL KINDS.

Langstroth on the Honey-Bee, Revised

The Classic in Bee-Culture—Price, $1.25, by Mail.

Beeswax Wanted ❊ ❊ ❊

AT ALL TIMES.

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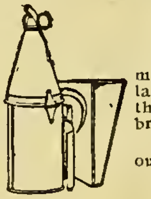

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BeeSmoker

MADE TO ORDER.

gham Brass Smokers,

made of sheet-brass which does not rust or burn ut should last a life-time. You need one, but they cost 25 cents more than tin of the same size. The little pen cut shows our brass hinge put on the three larger sizes.

No wonder Bingham's 4-inch Smoke Engine goes without puffing and does not

DROP INKY DROPS.

The perforated steel fire-grate has 381 holes to air the fuel and support the fire.

Prices: Heavy Tin Smoke Engine, four-inch Stove, per mail, $1.50; 3½-inch, $1.10; three-inch, $1.00; 2½-inch, 90 cents; two-inch, 65 cents.

BINGHAM SMOKERS

are the original, and have all the improvements, and have been the STANDARD OF EXCELLENCE for 22 years. Address, **T. F. BINGHAM, FARWELL, MICH.**

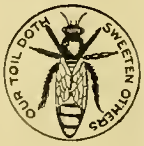
Please mention Bee Journal when writing.

Sections—A Bargain.

We have 50,000 3¾x5x1½ inch plain sections, and as our call for them is light, we will sacrifice them. Prices very low. Write.

Apiaries—Glen Cove, L.I. **I. J. STRINGHAM, 105 Park Place, New York, N. Y.**

Please mention Bee Journal when writing.


OUR TOIL DOTH SWEETEN OTHERS

OUR TOIL DOTH SWEETEN OTHERS

Four Celluloid Queen-Buttons Free

AS A PREMIUM

For sending us ONE NEW SUBSCRIBER to the American Bee Journal for three months with 30 cents, we will mail you FOUR of these pretty buttons for wearing on the coat-lapel. (You can wear one and give the others to the children.) The queen has a golden tinge.

This offer is made only to our present regular subscribers.

NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate, it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

Prices of Buttons alone, postpaid: One button, 8 cts.; 2 buttons, 6 cts. each; 5 or more, 5 cts. each. (Stamps taken.) Address,

GEORGE W. YORK & CO., 118 Michigan St., CHICAGO.